HAZARDOUS MATERIALS SURVEY

BUILDING 160
WHITE SANDS MISSILE RANGE

Submitted to:

U.S. Army
White Sands Missile Range
National Range Support Directorate
Engineering Division
White Sands Missile Range, New Mexico 88002

Prepared By:

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WSMR Contract No: DATM05-01-P-0221
WSMR Work Order No: P00007
VIVA Project No.: WSMR.14.1.36
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HAZARDOUS MATERIAL SURVEY
WHITE SANDS MISSILE RANGE BUILDING 160

EXECUTIVE SUMMARY

Under White Sands Missile Range Contract No: DATM05-01-P-0221-Task Order P000007, VIVA Environmental, Inc. has completed a Hazardous Material Survey of building 160 located at White Sands Missile Range, New Mexico. Building 160, single story building, was built in 1959 with an estimated 11,886 square footage. The building was originally built and used as a mess hall (cafeteria) and has been vacant for five years. A plan has been submitted to convert the building to administrative offices; therefore, the interior of the building will require the removal and disturbance of several existing building materials. The possibility exists that asbestos and/or lead-based paint is contained in some of these building materials. Additionally, the building was visually and physically surveyed for the presence of the following five (5) groups of hazardous materials: (1) mercury bulbs and thermostats, (2) polychlorinated biphenyls (PCB) ballasts, (3) ozone depleting chemicals (ODC), (4) smoke detectors-fire detectors containing radiological sources and (5) rodent occupation evidence. Commencing on July 7, 2002, and concluding on July 12, 2002, Mr. Mark Ayoub, certified asbestos and lead inspector, with the assistance of Mr. Arnulfo Quimiro, certified asbestos building inspector, performed the survey to determine the presence of asbestos, lead and the five groups of hazardous materials. As part of the Quality Control Plan (QC), an inspection was performed on July 12, 2002 by Mr. Gerald Goodwin, Project Manager with the assistance of Mr. Mark Ayoub. The QC included a walk-through of the building and identifying the homogeneous areas.

Findings:

Asbestos- The following building materials were identified as containing more than one-percent asbestos.

- Homo# 4, Black insulation under black laminate located in areas A-11 and A-12.
- Homo# 11, Black mastic under 12x12 black-brown speckled floor tile located in area A-9.
- Homo# 16, 9x9 light-dark green speckled floor tile located in area A-17.
- Homo# 21, Caulking at duct work located in attic in areas A-22 and A-23.
- Homo# 23, Window glazing on windows locate on the exterior of area A-1.
- Homo# 25, Caulking at doors on exterior located throughout the exterior of building.
- Homo# 28, Caulking at window wall panels tile located at area A-6 on north and south walls.
- Homo# 29, Caulking at vents exhaust fans locate on east and south exterior walls of building.
- Homo# 31, Surfacing material on CMU walls located on north, east, and south exterior walls.
- Homo# 33, Glazing at metal sash windows located on north and south exterior walls.
- Homo# 43, Caulking on air conditioner intake panels located on A-25 (roof).
- Homo# 45, Silver paint under roof membrane located in area A-26.

Drawing detailing locations are presented in Appendix A.

Lead-(mg/cm^2) The following building materials were identified as containing lead-based paint above 0.5 mg/cm^2.

No	Room	Source	Substrate	Feature	Condition	Color
4	Exterior	Door	Metal	Jamb	Fair	Brown
5	Exterior	Door	Metal	Door	Fair	Brown
7	Exterior	Wall	Concrte	Wall	Fair	Tan
8	Exterior	Support	Metal	Column	Poor	Brown
11	Exterior	Wall	Concrte	Wall	Fair	Tan
13	Exterior	Wall	Concrte	Wall	Fair	Tan
15	Exterior	Window	Metal	Sash Ext	Poor	Tan
22	Exterior	Window	Metal	Sash Ext	Poor	Tan
23	Exterior	Wall	Concrte	Wall	Fair	Tan
24	Exterior	Wall	Concrte	Wall	Fair	Tan
25	Exterior	Wall	Concrte	Wall	Poor	Tan
27	Exterior	Support	Metal	Column	Poor	Brown
28	Exterior	Door	Metal	Jamb	Fair	Brown
29	Exterior	Door	Metal	Door	Fair	Brown
34	Exterior	Door	Metal	Jamb	Fair	Brown
35	Exterior	Door	Metal	Door	Fair	Brown
37	Exterior	Grounds	Metal	Ashtray	Poor	Red
38	Exterior	Window	Metal	Guard	Fair	Red
39	Exterior	Window	Metal	Guard	Fair	Black
40	Exterior	Window	Metal	Guard	Fair	Tan
42	Exterior	Door	Metal	Storm	Poor	Tan
43	Exterior	Door	Metal	Storm	Poor	Tan
44	Exterior	Door	Metal	Storm	Poor	Tan
47	Exterior	Stairs	Metal	Rail cap	Poor	Brown
48	Exterior	Stairs	Metal	Rail cap	Poor	Brown
54	Exterior	Dock	Metal	Bumper	Poor	Tan
55	Exterior	Shed	Wood	Wall	Poor	Brown
56	Exterior	Shed	Wood	Wall	Poor	Brown
57	Exterior	Window	Metal	Guard	Fair	Brown
58	Exterior	Window	Metal	Guard	Fair	Brown
59	Exterior	Door	Metal	Jamb	Fair	Brown
60	Exterior	Door	Metal	Door	Fair	Brown
64	Exterior	Door	Metal	Door	Fair	Brown
65	Exterior	Door Top	Metal	Door	Fair	Brown
66	Exterior	window Top	Metal	Frame	Fair	Brown
67	Exterior	window Top	Metal	Frame	Fair	Brown
68	Exterior	window	Metal	Frame	Fair	Brown
72	Exterior	Wall	Metal	Upper trim	Intact	Tan
73	Exterior	Wall	Metal	Upper trim	Intact	Tan
74	Exterior	Wall	Metal	Upper trim	Intact	Tan
75	A16	Wall	Metal	Beam	Poor	Tan
79	A12	Window	Metal	Sash Ext	Fair	White
80	A10	Door	Metal	Jamb	Fair	White
81	A10	Door	Wood	Door	Fair	White
82	A17	Window	Metal	Sash	Fair	White
86	A17	Window	Metal	Radiator	Fair	Tan
87	A17	Window	Metal	Sash	Fair	White
88	A10	Window	Metal	Sash Ext	Fair	White
93	A10	Door	Metal	Jamb	Fair	White

No	Room	Source	Substrate	Feature	Condition	Color
94	A10	Door	Wood	Jamb	Fair	White
96	A18	Wall	Metal	Column	Poor	Brown
97	A18	Door	Metal	Jamb	Fair	Brown
98	A18	Door	Wood	Door	Fair	Brown
99	A20	Door	Metal	Radiator	Fair	Brown
100	A20	Door	Metal	Door	Fair	Brown
101	A20	Door	Metal	Door	Fair	Brown
102	A20	Door	Metal	Door	Fair	Brown
105	A19	Ladder	Metal	Rung	Poor	Brown
108	A7	Door	Metal	Jamb	Fair	White
112	A7	Wall	Metal	Column	Poor	Brown
113	A6	Door	Metal	Jamb	Fair	Tan
114	A6	Door	Metal	Door	Fair	Tan
115	A6	Door	Metal	Radiator	Fair	Tan
117	A6	Window	Metal	Radiator	Fair	Pink
118	A5	Window	Metal	Radiator	Fair	Pink
119	A5	Door	Metal	Jamb	Fair	Tan
120	A1	Door	Metal	Jamb	Fair	Tan
132	A5	Door	Metal	Jamb	Fair	Tan
139	A5	Door	Metal	Jamb	Fair	Tan
142	A6	Door	Metal	Radiator	Fair	Pink
143	A6	Door	Metal	Jamb	Fair	Tan
144	A6	Door	Metal	Door	Fair	Tan
146	A9	Door	Metal	Jamb	Fair	White
150	A10	Ladder	Metal	Rung	Poor	Brown
151	A10	Door	Metal	Jamb	Fair	Tan
157	A15	Floor	Tile	Baseboard	Poor	White
158	A15	Wall	Tile	Wall	Intact	White
159	A15	Wall	Tile	Wall	Intact	White
160	A15	Wall	Tile	Wall	Intact	White
164	A22	Structure	Metal	Corr roof	Intact	White
165	A22	Structure	Metal	Corr roof	Intact	White
166	A22	Structure	Metal	Corr roof	Intact	White
167	A22	Door	Metal	Door	Fair	White
168	A22	Door	Metal	Jamb	Fair	White

Drawing detailing lead sample locations is presented in Appendix A.

Mercury bulbs/thermostats-

- A-2 contains 8 mercury bulbs.
- A-3 contains 8 mercury bulbs.
- A-5 contains 6 mercury bulbs.
- A-6 contains 20 mercury bulbs.
- A-7 contains 8 mercury bulbs.
- A-8 contains 16 mercury bulbs.
- A-9 contains 16 mercury bulbs.
- A-10 contains 46 mercury bulbs.
- A-13 contains 4 mercury bulbs.
- A-17 contains 8 mercury bulbs.

PCB ballasts-

- None throughout building.

Ozone Depleting Chemicals-

- Area A-6
  - 2- salad units with unknown refrigerant.
- Area A-7
  - 1-refrigeraltor with R12 refrigerant
- Area A-8
  - 1-refrigeraltor with R12 refrigerant
- Area A-9
  - 1-refrigeraltor with R12 refrigerant
- Area A-10
  - 1-refrigeraltor with R12 refrigerant
- Area A-11
  - 1-walk-in refrigerator with R12-R22 refrigerant
- Area A-12
  - 1-walk-in refrigerator with R12-R22 refrigerant
- Area A-15
  - 1-walk-in refrigerator with R12-R22 refrigerant
- Exterior
  - 4- compressor units on north side of building with R22

Radiological Sources-

- None throughout building.

Rodent occupation evidence-

- A-14 have rodent droppings
- A-21 have rodent droppings

INTRODUCTION AND SCOPE:

Under White Sands Missile Range (WSMR) Contract No: DATM05-01-P-0221-Task Order P000007, VIVA Environmental, Inc. (VIVA) has conducted a Hazardous Material Survey in accordance with the Statement of Work for Hazardous Building Materials Sampling and Abatement for White Sands Missile Range.

As per our Task Order P000007 assigned, VIVA determined the presence, location, and quantity of Hazardous Building Materials in or on the exterior and interior of building 160 by sampling analysis, inspection, survey and reporting techniques in accordance with federal, state, and local environmental/safety laws and regulations. This included at least three samples from each suspected asbestos-containing homogenous area as required by WSMR protocol.

The Hazardous Building Materials Survey included the following: asbestos containing material (as defined by EPA), lead in paint, lead containing components (not including paint), lead-based paint (as defined by EPA/HUD), PCB-containing fluorescent light ballasts, oil or soil contaminated with PCBs, mercury-containing fluorescent light bulbs or tube and thermostats, radioactive material-containing fire and smoke detectors, ozone depleting substances-containing heating, ventilation, air conditioning and refrigeration equipment, appliances or systems, ozone depleting substances-containing fire suppression equipment appliances or systems, and rodent droppings.

Health & Safety

In accordance with the sampling plan submitted and approved by WSMR. All sampling of Hazardous Building Materials followed VIVA's established polices and procedures for sampling of potential hazardous materials.

QUALITY DATA OBJECTIVES/SAMPLING PLAN:

All work was conducted in compliance with the Sampling Data Quality Objectives, Quality Assurance, and Quality Control Plan submitted and approved by WSMR.

National Emission Standard for Hazardous Air Pollutants (NESHAP) regulations requires that prior to demolition or renovation of any public or commercial building an asbestos survey must be completed to determine the presence of any Asbestos Containing Building Materials (ACBM).

OSHA (29CFR1926.62) indicates that the presence or absence of lead containing hazards must be evaluated prior to renovation activities for worker protection. Where lead is present worker exposure must be assumed or determined through personal exposure assessments.

The EPA-AHERA asbestos sampling protocol calls for a minimum of three samples (based on square footage) to be collected from each homogeneous area of each suspect surfacing building material, three from each suspect thermal system insulating material (TSI), and sufficient samples must be collected from each homogeneous area of miscellaneous building material to determine whether the material is ACBM. WSMR protocol requires that a minimum of three samples be obtained from each suspect homogenous area. Also, all samples containing 2% or less asbestos containing material, as defined by EPA, were subsequently point counted. For the purposes of quality control (QC), (10% rounded up to the next highest whole number), of all bulk samples were split into two separate samples and analyzed by a second financially independent laboratory.

The EPA states that materials containing asbestos in amounts grater than 1% are considered asbestos containing material (ACM), while OSHA regulations pertain to any asbestos exposure to workers greater than the Permissible Exposure Limit (PEL) of 0.1 fibers per cubic centimeter (f/cc) on an 8-hour Time Weighted Average.

On July 7-12, 2002, Mr. Mark Ayoub with the assistance of Mr. Arnulfo Quimiro, certified asbestos and lead building inspectors respectively, performed a survey to determine the presence of asbestos, lead and the additional group of five (5) hazardous material items.

As part of the Quality Control Plan (QC), an inspection was performed on July 12, 2002 by Mr. Gerald Goodwin, Project Manager with the assistance of Mr. Mark Ayoub. No additional samples were taken.

During a walkthrough by Mr. Ayoub and Mr. Quimiro, a visual inspection throughout the subject areas was conducted to identify suspect asbestos-containing building materials (ACBMs). Samples of suspect asbestos building materials were identified, quantified and collected. In accordance with EPA Regulation 40 CFR 763.86, bulk samples were placed into a sealed and labeled plastic bag, pertinent identifying information was than documented on a chain of custody form, samples were prepared for shipment and were sent to a WSMR pre-approved and NVLAP accredited laboratory for analysis by Polarized Light Microscopy (PLM).

VIVA identified 45 homogenous areas of suspect asbestos-containing building materials (ACBM) throughout the building. Homogenous areas are defined as areas of surfacing material, thermal system insulation, or miscellaneous material that are uniform in texture and color. VIVA field personnel documented a description of each homogenous area on field sheets provided by WSMR in association with WSMR Adam software. The information from each field sheet was entered into an accumulated data base by project of all WSMR projects and is provided as part of this survey report.

A minimum of three (3) asbestos bulk samples were randomly collected from each of the homogenous areas, as per WSMR sampling requirements. Site diagrams are provided in Appendix A that illustrate the sample locations for all samples collected.

On July 7 and 8 2002, Mr. Ayoub performed a lead paint survey to determine the presence of lead based paint within the exterior and interior of the building. Under the lead standards, all painted surfaces should be considered suspect. The search for the presence of lead was determined by using a NITON 309 X-Ray Fluorescent spectrum analyzer (XRF #XL-U01001 Source #NR1816). The threshold for paint to be considered lead containing on this project is $0.5mg/cm^2$. This was established by utilizing the OSHA reference for "detectable levels" of lead in paint and the WSMR protocol for lead paint testing. The NITON Corporation states that the NITON 309 can detect lead at $0.3mg/cm^2 \pm 0.1mg/cm^2$, and has included a calibration sheet at that level for the unit when purchased. Building components painted the same color and with the same paint history were considered homogenous. Usually at least three representative XRF readings were taken from each homogenous area.

The building was also visually/physically surveyed for the presence of the following five (5) groups of hazardous material items: (1) mercury bulbs and thermostats, (2) PCB ballasts, (3) ozone depleting chemicals, (4) smoke detectors-fire detectors containing radiological sources, and (5) rodent occupation evidence.

RESULTS/FINDINGS:

Between July 9 and 12, 2002, a total of 139 bulk samples of suspect asbestos-containing building materials were collect and submitted to EMSL Laboratories, Inc. (EMSL), NVLAP Certified laboratory located in Dallas, Texas. A total of ten percent Quality Control (QC) samples were split from the collected bulk samples and sent to Steve Moody Micro Services, Inc. (SMMS), NVLAP Certified laboratory located in Carrollton, Texas for analysis. All laboratories were instructed by VIVA to analyze each of the samples by Polarized Light Microscopy/Dispersion Staining methodology.

The following table summarizes the analytical results of the laboratory analysis. Copies of the actual laboratory reports are presented in Appendix B.

Homogenous Areas

Homo Area#	Sample#	Material Description	Material Location	Asbestos Content
1	01 02 03	Insulation(behind ceiling tile)	A-1, A-4, A-5, A-6, A-7, A-9	None Detected
2	04 05 06	2x4 Lay-in Acoustic Tile	A-2, A-3, A-20	None Detected
3	07 08 09 10 11	Plaster on ceiling	A-7, A-8, A-9, A-10, A-17, A-18, A-19, A-20	None Detected
4	**12 13 14**	**Black Plastic Laminate Over Insulating Board**	**A-11, A-12**	**5% Chrysoltile**
5	15 16 17	Texture, Joint Compound, Sheetrock	A-15	None Detected
6	18 19 20	Plaster on walls	A-2, A-3	None Detected
7	21 22 23	Wallpaper, Wallboard	A-1, A-4, A-5, A-6, A-7, A-9	None Detected
8	24 25 26	Brown with Red Border Tile Mastic on Wallboard	A-8, A-10	None Detected
9	27 28 29	White Tile Mastic on Wallboard	A-15	None Detected
10	30 31 32	12x12 crème white speckles Floor Tile/Mastic	A-1, A-4, A-5, A-6	None Detected
11	**33 34 35**	**12x12 Brown Black speckles Floor Tile/Mastic**	**A-9**	**5% Chrysoltile Mastic**
12	36 37 38	Rose Cove Base Mastic	A-1, A-4, A-5, A-6	None Detected
13	39 40 41	White Cove Base Mastic	A-7, A-9	None Detected
14	42 43 44	Dark Brown Cove Base Mastic	A-17	None Detected

Homo Area#	Sample#	Material Description	Material Location	Asbestos Content
15	45 46 47	Yellow Mastic under Carpet	A-6	None Detected
16	**48** **49** **50**	**9x9 Light Green-Dark green speckled Floor Tile/Mastic**	**A-17**	**3% Chrysotile Floor Tile**
17	51 52 53	Cloth TSI-Pipe Elbows, Joints	Attic ground floor, A-6, A-22, A-23, A-24, A-25	None Detected
18	54 55 56	Foil TSI-Pipe Straight Runs	A-2, A-3	None Detected
19	57 58 59	Cloth TSI-Elbows, Joints	A-22, A-23	None Detected
20	60 61 62	HVAC Flex Connector	A-22, A-23, A-24, A-255	None Detected
21	63 **64** **65**	**Caulking on Duct Work**	**A-22, A-23**	**5% Chrysotile**
22	66 67 68	Cloth TSI-Straight Runs	A-22, A-23	None Detected
23	**69** **70** **71**	**Caulking Around Alum. Windows.**	**Exterior east & southeast windows**	**5% Chrysotile**
24	72 73 74	Glazing	Exterior A-1	None Detected
25	**75** **76** **77**	**Caulking Around Doors**	**A-21 and North, South, East and West Exterior Walls**	**5% Chrysotile**
26	78 79 80	Store Front Panel Material	A-6, North & South Wall	None Detected
27	81 82 83	Caulking Around Front Windows	A-6, North & South Wall	None Detected
28	**84** **85** **86**	**Caulking, (window wall panels)**	**A-6, North & South Wall (exterior)**	**5% Chrysotile**
29	87 **88** 89	**Caulking, (vents and exhaust fans)**	**East & South Walls (exterior)**	**5% Chrysotile Floor Tile**

Homo Area#	Sample#	Material Description	Material Location	Asbestos Content
30	90 91 92	Caulking, (at roof near entries)	South and North Walls (exterior)	None Detected
31	93 **94** 95 96 97	**Surfacing Material on CMU Walls**	**West, North, South Walls (exterior)**	**3% Chrysotile**
32	98 99 100	Caulking (metal sash windows)	North, South Walls (exterior)	None Detected
33	**101** **102** **103**	**Glazing (metal sash windows) on exterior**	**North South Walls Exterior on side of building**	**5% Chrysotile**
34	104 105 106	Caulking (CMU corner& expansion joints (exterior)	Exterior Walls	None Detected
35	107 108 109	Pipe Insulation Runs/Fittings	A-28, Basement	None Detected
36	110 111 112	Caulking (plaster walls & ceilings)	A-8, A-10, A-7, A-9, A-10, A-18, A-19, A-13	None Detected
37	113 114 115	Flashing Material,(chimney & extractors)	Roof	None Detected
38	116 117 118	Flashing Material (vents)	Roof	None Detected
39	119 120 121	Roofing Materials (gravel roof)	Roof	None Detected
40	122 123 124	Sealant (roof penetration for elect. Ladder)	Roof	None Detected
41	125 126 127	Caulking (12” exhaust)	Roof	None Detected
42	128 129 130	Caulking (chimney flashing & flashing at lower lever)	Roof	None Detected

Homo Area#	Sample#	Material Description	Material Location	Asbestos Content
43	131 132 133	Caulking (A/C air intake panels)	Roof	5% Chrysotile
44	134 135 136	Caulking (jacketed lines)	Southeast Corner Exterior Walls, Roof	None Detected
45	137 138 139	Roofing Materials (silver paint)	Roof (under membrane)	5% Chrysotile

Asbestos-Containing Building Material Location Diagrams are provided in Appendix A that illustrate the location of the identified asbestos-containing materials. Copies of the laboratory report and chain-of-custody form are provided in Appendix B.

Conclusions:

The following table summarizes the materials within the subject areas that were identified as containing greater than one-percent asbestos. The estimated quantities and locations should be field verified by the abatement contractor prior to abatement.

Homogenous Area

Homo#	Sample#	Material Description	Material Location	Quantity	Friable	Condition
4	12 13 14	Black Insulation under Plastic Laminate	A-11, A-12	160 square feet	Jacketed	Fair
11	33 34 35	12x12 Brown Black speckles Floor Tile/Mastic	A-9	205 square feet	Non-Friable	Fair
16	48 49 50	9x9 Light Green-Dark green speckled Floor Tile/Mastic	A-17	90 square feet	Non-Friable	Poor
21	63 64 65	Caulking on Duct Work	A-22, A-23	20 linear feet	Non-Friable	Poor
23	69 70 71	Caulking Around Alum. Windows.	Exterior East & Southeast Windows	100 linear feet	Non-Friable	Poor
25	75 76 77	Caulking Around Doors	A-21 and North, South, East and West Exterior Walls	120 linear feet	Non-Friable	Poor

Homo#	Sample #	Material Description	Material Location	Quantity	Friable	Condition
28	84 85 86	Caulking, (window wall panels)	A-6, North & South Wall (exterior)	1150 linear feet	Non-Friable	Fair
29	87 88 89	Caulking, (vents and exhaust fans)	East & South Walls (exterior)	20 linear feet	Non-Friable	Poor
31	93 94 95 96 97	Surfacing Material on CMU Walls	West, North, South Walls (exterior)	800 square feet	Non-Friable	Poor
33	101 102 103	Glazing (metal sash windows) on exterior	North South Walls Exterior on side of building	35 linear feet	Non-Friable	Poor
43	131 132 133	Caulking (A/C air intake panels)	A-25, Roof	80 linear feet	Non-Friable	Fair
45	137 138 139	Roofing Materials (silver paint)	Roof (under membrane)	400 square feet	Non-Friable	Poor

DISCUSSION:

Laboratory analysis by PLM indicate that Homo# 4, black insulation under plastic laminate located in areas A-11 and A-12, Homo# 11, black mastic under 12x12 black-brown speckled floor tile located in area A-9, Homo# 16, 9x9 light-dark green speckled floor tile located in area A-17, Homo# 21, caulking at duct work located in attic in areas A-22 and A-23, Homo# 23, window glazing on windows locate on the exterior of area A-1, Homo# 25, caulking at doors on exterior located throughout the exterior of building, Homo# 28, caulking at window wall panels tile located at area A-6 on north and south walls, Homo# 29, caulking at vents exhaust fans locate on east and south exterior walls of building, Homo# 31, surfacing material on CMU walls located on north, east, and south exterior walls, Homo# 33, glazing at metal sash windows located on north and south exterior walls and Homo# 43, caulking on air conditioner intake panels located on A-25 (roof) and Homo# 45, silver paint under roof membrane located in area A-26 were identified areas for asbestos-containing materials. The Q.C. asbestos laboratory analyses did support the findings of the analyses of the primary laboratory.

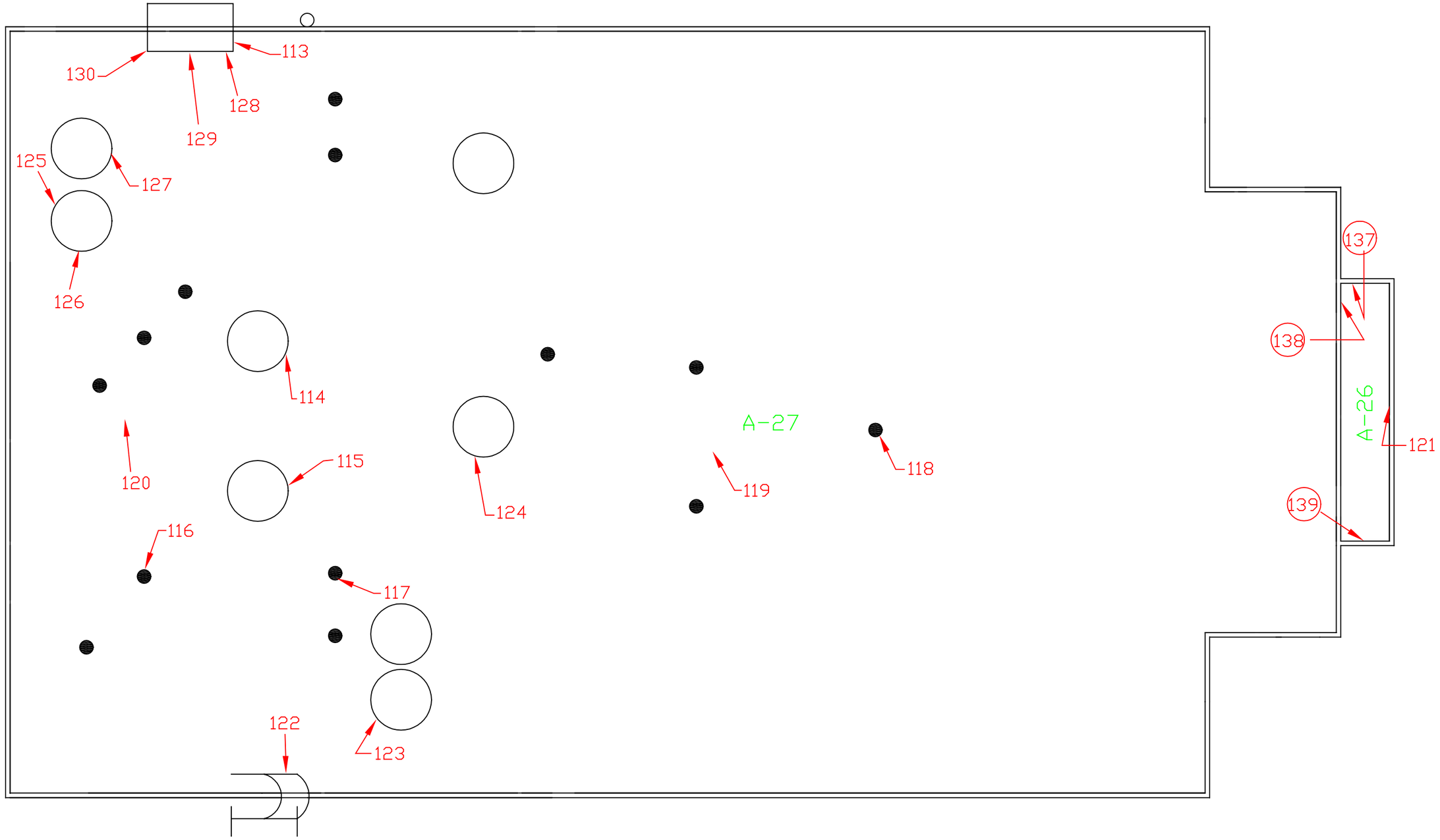
If Asbestos Containing Building Materials (ACBM) are to be disturbed, the procedures outlined in 29CFR Part 1926.1101 (OSHA regulations pertaining to worker protection) and 40 CFR Part 61 regulations (pertaining to visible emissions and notifications) must be followed.

The workers involved in the renovation involving the disturbance of components containing lead based paint must be trained, and as a minimum, also must utilize the methods of compliance prescribed by 29CFR 1926.62 for removal and disposal.

The removal or disposal of the mercury fluorescent tubes, PCB ballasts and ODC appliances must be handled or disposed of in accordance with WSMR protocol.

The location and approximate quantities of the hazardous materials provided in this survey are estimates only; due to the non-destructive sampling protocol of the survey, some materials may have been hidden or unable to be sampled at the time of this survey. The Contractor is responsible to field verify actual quantities which plans and specifications.

Appendix A



Legend:

122 Sample Locations

(17) Positive Sample Locations

A-27 Area Locations

DRAWN BY:	REVIEWED BY:	APPROVED BY:	JOB NO.	TITLE:	DATE:
R.B.	G.G.	M.W.	WSMR.14.1.36	ASBESTOS SAMPLES	07/12/02

VIVA ENVIRONMENTAL, INC.
The Future Is Clear!
7201 STILES EL PASO, TEXAS 79915

VIVA ENVIRONMENTAL,INC.
7201 STILES DR.
EL PASO, TX.79915

NAME: BUILDING 160
ASBESTOS ROOF LOCATIONS
WHITE SANDS MISSILE RANGE, N.M.

DRAWING NO. 03 | SCALE: NTS

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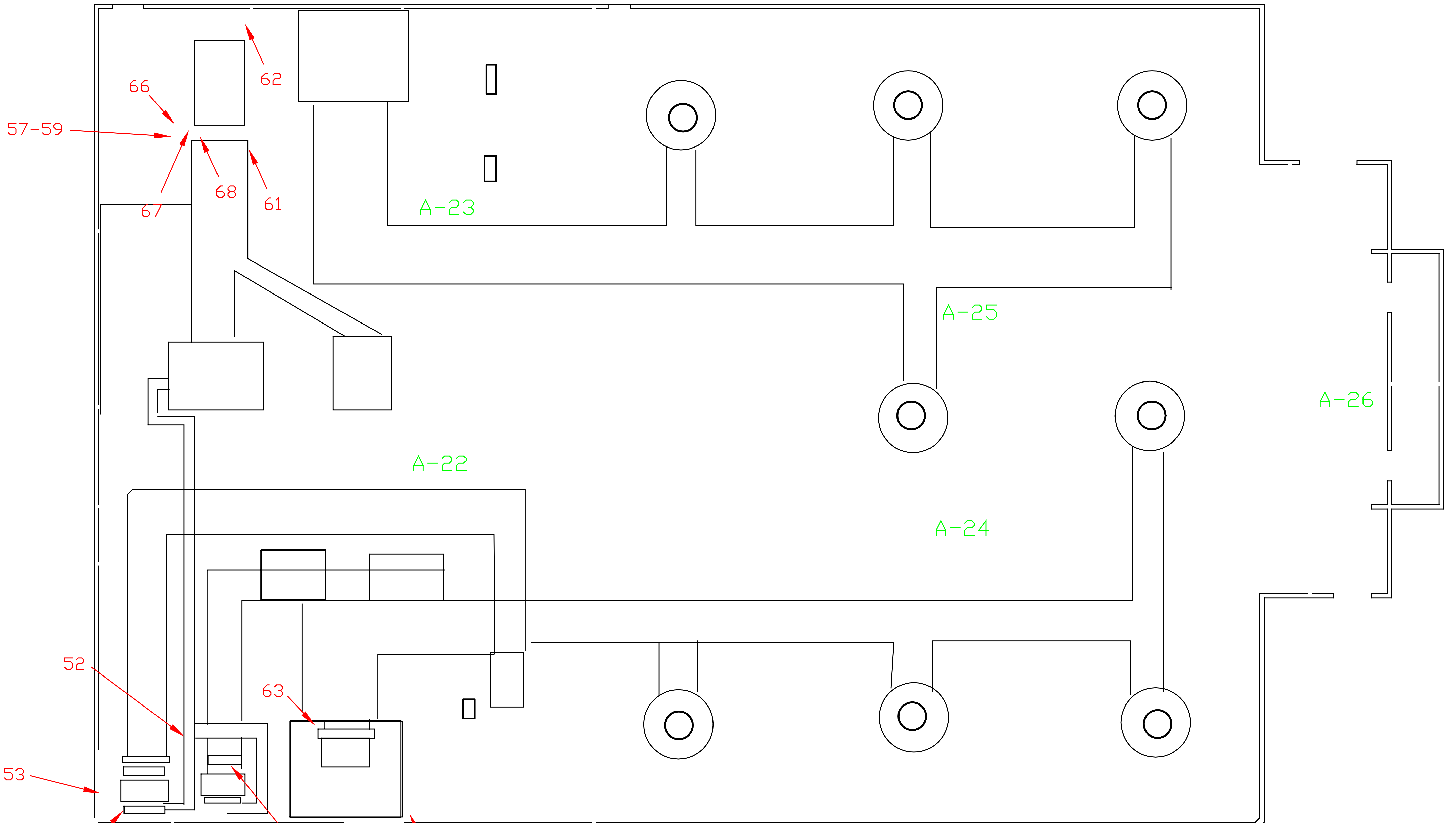

Legend:

17 Sample Locations

(17) Positive Sample Locations

A-22 Area Locations

DRAWN BY:	REVIEWED BY:	APPROVED BY:	JOB NO.	TITLE:	DATE:
A.S.	G.G.	M.W.	WSMR 14.1.36	ASBESTOS SAMPLE LOCATION	07/12/02

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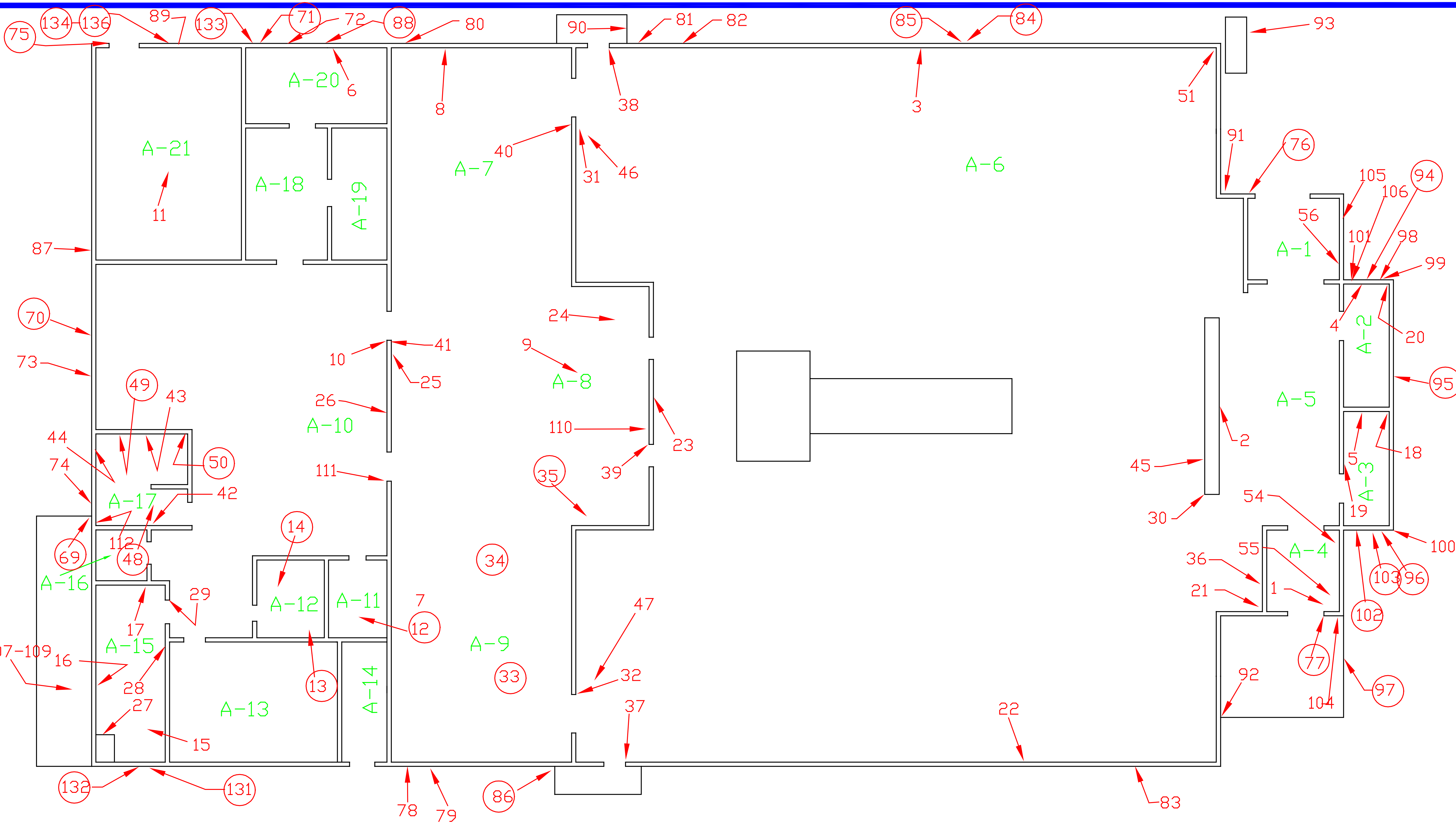
NAME
BUILDING 160
ASBESTOS ATTIC LOCATIONS
WHITE SANDS MISSILE RANGE, N.M.

DRAWING NO. 02 SCALE: NTS



Legend:

17	Sample Locations
(17)	Positive Sample Locations
A-13	Area Locations

DRAWN BY:	REVIEWED BY:	APPROVED BY:	JOB NO.	TITLE:	DATE:
A.S./R.B.	G.G.	M.W.	WSMR.14.1.36	ASBESTOS SAMPLES	07/12/02

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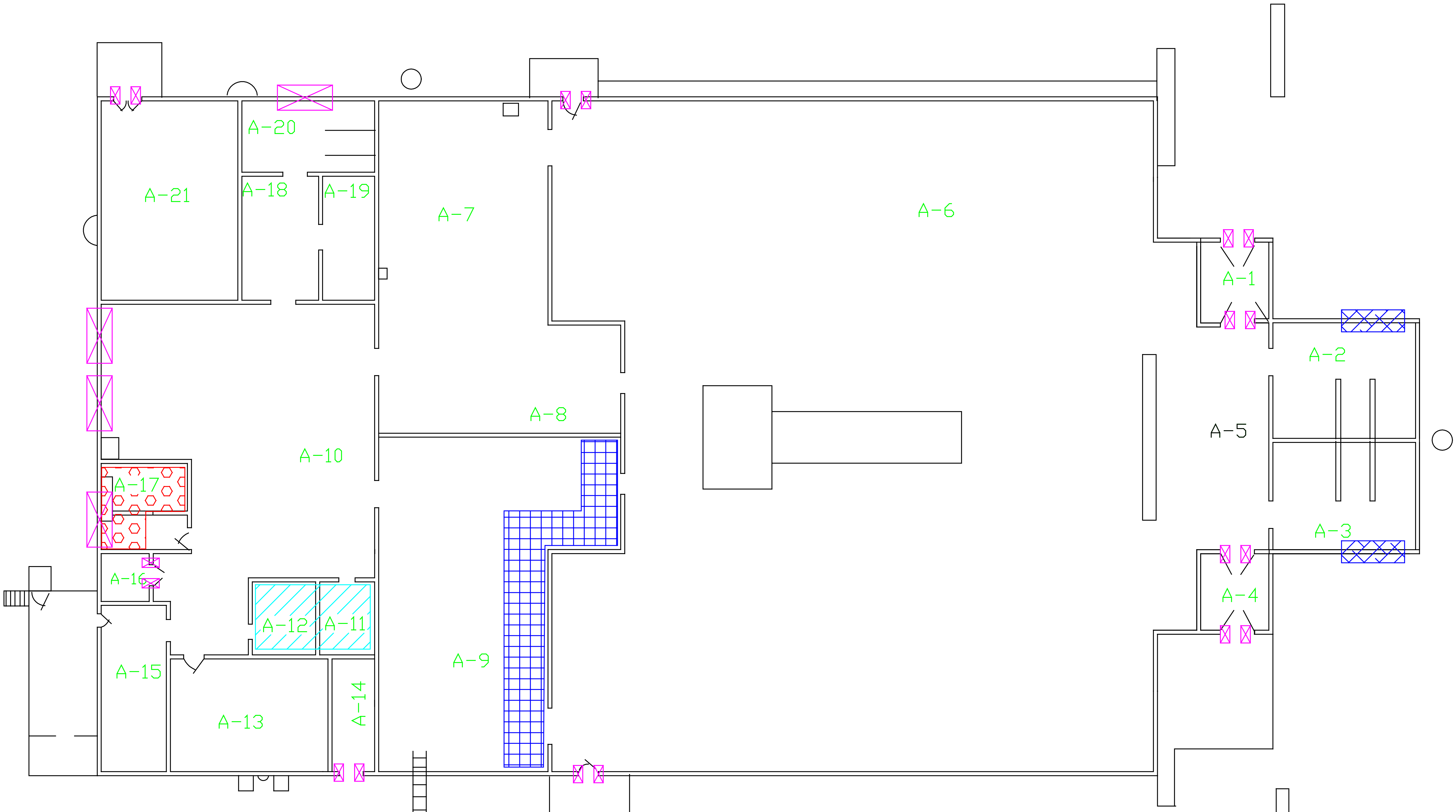
NAME
BUILDING 160
ASBESTOS LOCATIONS
WHITE SANDS MISSILE RANGE, N.M.

DRAWING NO. 1
SCALE: NTS



HOMO #4 Black Insulation UnderPlastic Laminate on Ceilings

HOMO #11 Black Floor Tile Mastic

HOMO #16 Grey 9x9 Floor Tile

HOMO #23,25 Caulking

HOMO #33 Window Glazing

DRAWN BY:	REVIEWED BY:	APPROVED BY:	JOB NO.	TITLE:	DATE:
A.S.	G.G.	M.W.	WSMR 14.1.36	ASBESTOS HOMOGENOUS AREA LOCATIONS	07/12/02

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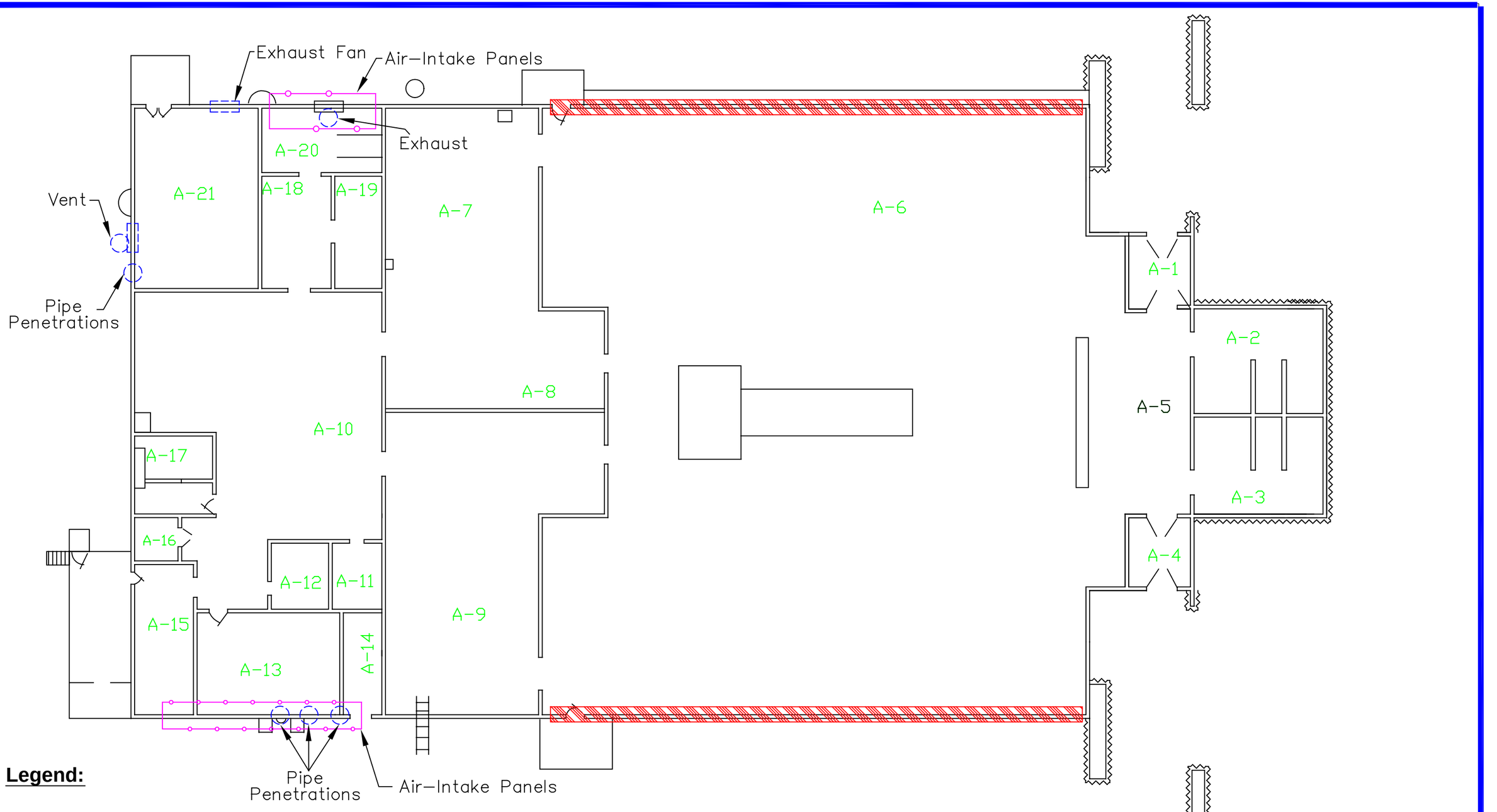
NAME: BUILDING 160 ASBESTOS LOCATIONS
WHITE SANDS MISSILE RANGE, N.M.

DRAWING NO. 04

SCALE: NTS



Legend:

- HOMO #28 Caulking Around Frame of Upper Window Wall Panels
- HOMO #31 Surfacing Material on CMU Walls
- HOMO #29 Caulking on Vents, Exhausts, and Pipe Penetrations
- HOMO #43 Caulking Around Frame Of Air Intake Panels

H:\2002 Projects\WSMR\Jobs\Building 160\ACad\Homogenous\Homogenous Drawing 2

DRAWN BY:	REVIEWED BY:	APPROVED BY:	JOB NO.	TITLE:	DATE:
A.S.	G.G.	M.W.	WSMR 14.1.36	ASBESTOS HOMOGENOUS AREA LOCATIONS	07/12/02

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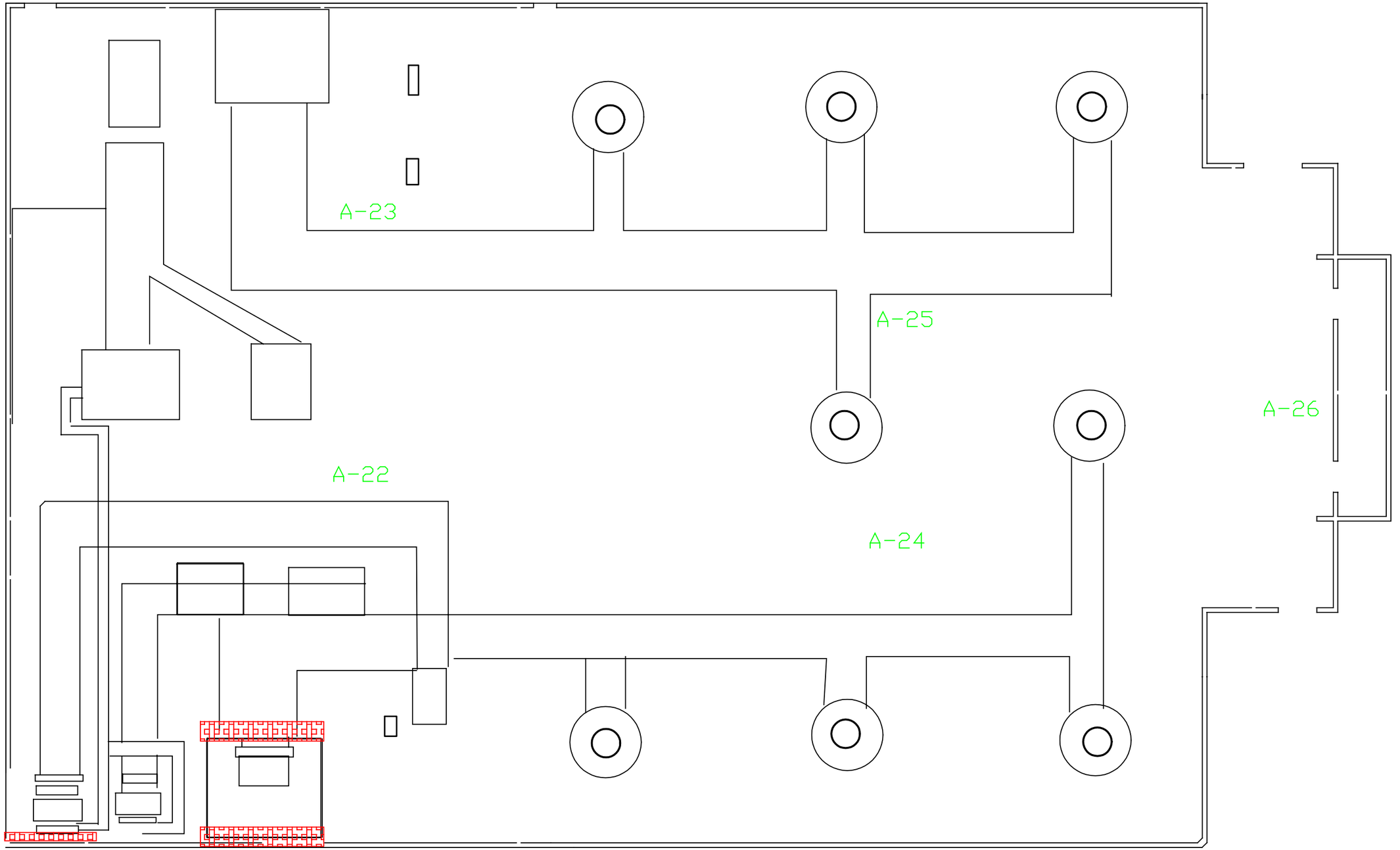
NAME: BUILDING 160 ASBESTOS LOCATIONS
WHITE SANDS MISSILE RANGE, N.M.

DRAWING NO.: 05

SCALE: NTS



Legend:

HOMO #21 Caulking At Duct Work

DRAWN BY:	REVIEWED BY:	APPROVED BY:	JOB NO.	TITLE:	DATE:
A.S.	G.G.	M.W.	WSMR 14.1.36	ASBESTOS HOMOGENOUS AREA LOCATIONS	07/12/02

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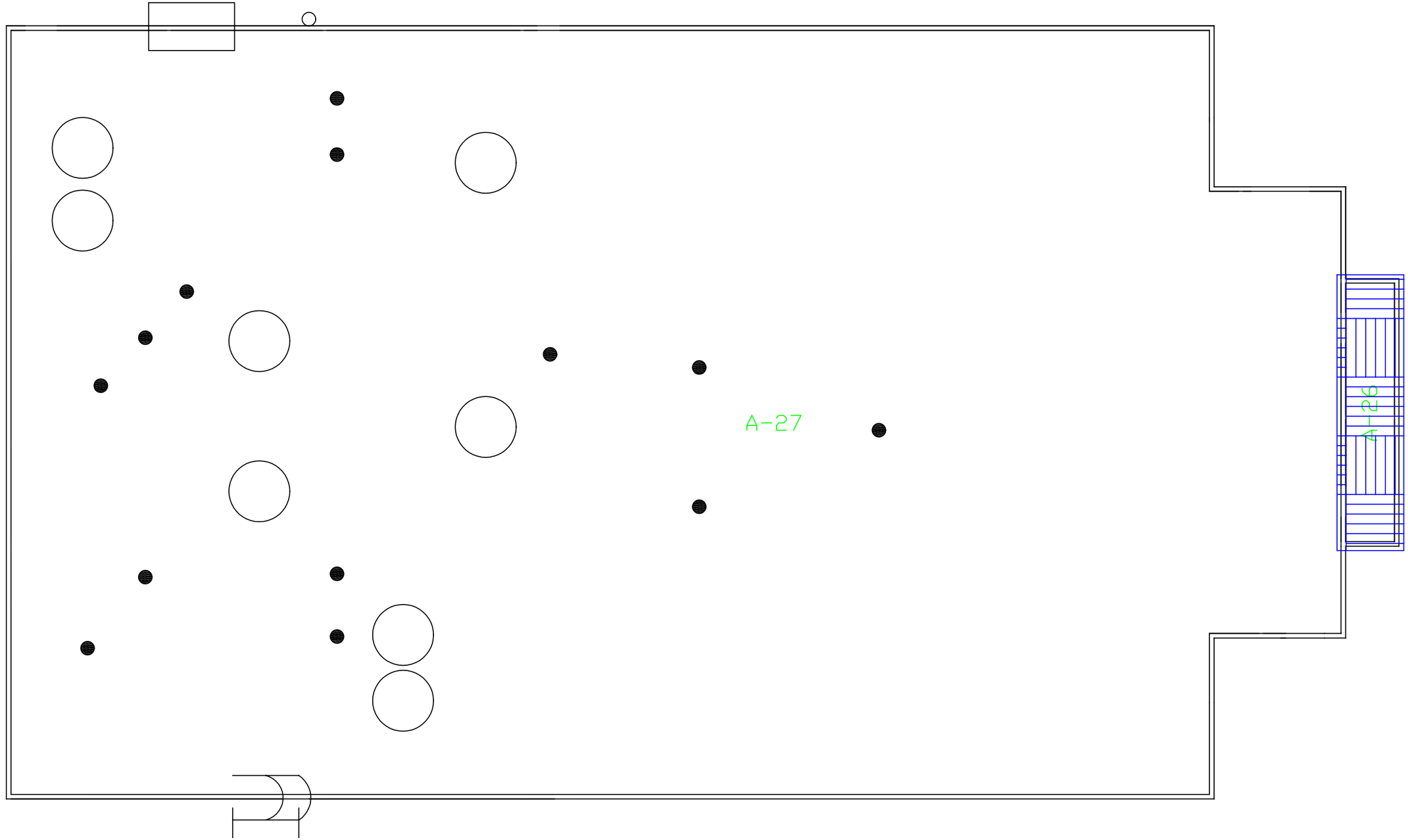
NAME: BUILDING 160
ASBESTOS ATTIC LOCATIONS
WHITE SANDS MISSILE RANGE, N.M.

DRAWING NO. 06 | SCALE: NTS



H:\2002 Projects\WSMR\Jobs\Building 160\Acad\Template

Legend:

HOMO #45 Silver Paint Under Roof Membrane

DRAWN BY:	REVIEWED BY:	APPROVED BY:	JOB NO.	TITLE:	DATE:
R.B.	G.G.	M.W.	WSMR 14.1.36	ASBESTOS HOMOGENOUS AREA LOCATIONS	07/12/02

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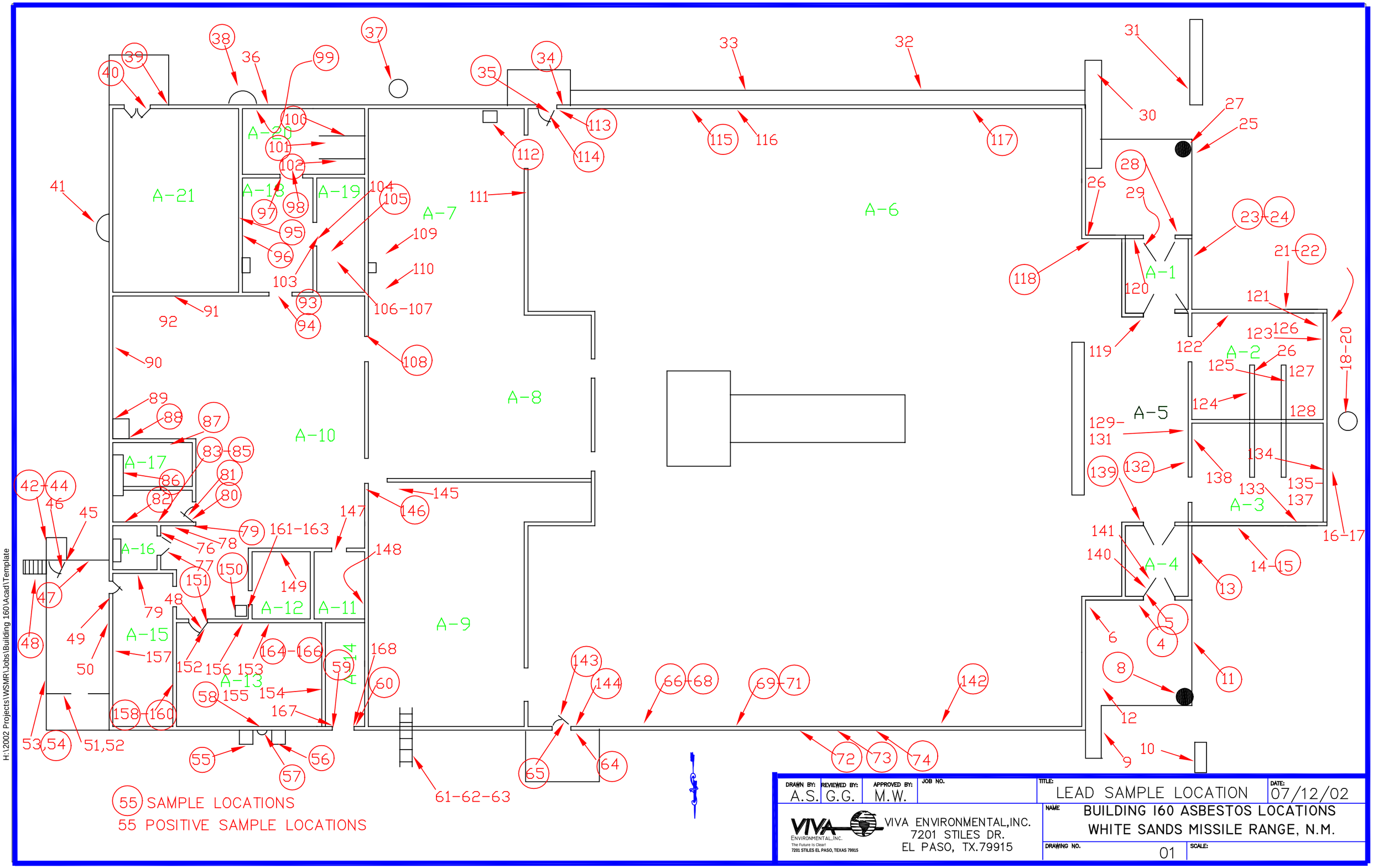
NAME: BUILDING 160
ASBESTOS ROOF LOCATIONS
WHITE SANDS MISSILE RANGE, N.M.

DRAWING NO. 07 | SCALE: NTS



55 SAMPLE LOCATIONS
55 POSITIVE SAMPLE LOCATIONS

H:\2002 Projects\WSMR\Jobs\Building 160\Acad\Template

DRAWN BY:	REVIEWED BY:	APPROVED BY:	JOB NO.	TITLE:	DATE:
A.S.	G.G.	M.W.		LEAD SAMPLE LOCATION	07/12/02

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7201 STILES DR.
EL PASO, TX.79915

NAME: BUILDING 160 ASBESTOS LOCATIONS
WHITE SANDS MISSILE RANGE, N.M.

DRAWING NO.: 01

SCALE:

Appendix B

EMSL Analytical, Inc.

1801 Royal Lane, Suite 908
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Attn.: Mark Ayoub
Viva Environmental
7201 Stiles
El Paso, TX 79915

Tuesday, July 16, 2002

Ref Number: DA021565

POLARIZED LIGHT MICROSCOPY (PLM)

Performed by EPA 600/R-93/116 Method*

Project: WSMR14.1.36 BUILDING 160

Sample	Location	Appearance	Sample Treatment	ASBESTOS %	ASBESTOS Type	NON-ASBESTOS %	NON-ASBESTOS Fibrous	NON-ASBESTOS %	NON-ASBESTOS Non-Fibrous
1		Yellow Fibrous Homogeneous	Teased		None Detected		90% Glass		10% Other
2		Yellow Fibrous Homogeneous	Teased		None Detected		90% Glass		10% Other
3		Yellow Fibrous Homogeneous	Teased		None Detected		90% Glass		10% Other
4		Gray Fibrous Homogeneous	Teased		None Detected		40% Cellulose		60% Other
5		Gray Fibrous Homogeneous	Teased		None Detected		40% Cellulose		60% Other
6		Gray Fibrous Homogeneous	Teased		None Detected		40% Cellulose		60% Other

Comments: For all obviously heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately. Also, "# of Layers" refers to number of separable subsamples.

* NY samples analyzed by ELAP 198.1 Method.

Roshaun Wilkerson
Analyst

Approved
Signatory

Analysis performed by EMSL Dallas (NVLAP Air and Bulk #200034, Texas Dept. of Health 30-0181)

EMSL Analytical, Inc.

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Viva Environmental
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Tuesday, July 16, 2002

Ref Number: DA021565

POLARIZED LIGHT MICROSCOPY (PLM)

Performed by EPA 600/R-93/116 Method*

Project: WSMR14.1.36 BUILDING 160

Sample	Location	Appearance	Sample Treatment	ASBESTOS %	ASBESTOS Type	NON-ASBESTOS %	NON-ASBESTOS Fibrous	NON-ASBESTOS %	NON-ASBESTOS Non-Fibrous
7		White Non-Fibrous Homogeneous	Teased		None Detected		None Detected	100%	Other
8		White Non-Fibrous Homogeneous	Teased		None Detected		None Detected	100%	Other
9		White Non-Fibrous Homogeneous	Teased		None Detected		None Detected	100%	Other
10		White Non-Fibrous Homogeneous	Teased		None Detected		None Detected	100%	Other
11		White Non-Fibrous Homogeneous	Teased		None Detected		None Detected	100%	Other
12		Black Non-Fibrous Homogeneous	Teased	5%	Chrysotile		None Detected	95%	Other

Comments: For all obviously heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately Also, "# of Layers" refers to number of separable subsamples.

* NY samples analyzed by ELAP 198.1 Method.

Roshaun Wilkerson
Analyst

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7201 Stiles
El Paso, TX 79915

Tuesday, July 16, 2002

Ref Number: DA021565

POLARIZED LIGHT MICROSCOPY (PLM)

Performed by EPA 600/R-93/116 Method*

Project: WSMR14.1.36 BUILDING 160

Sample	Location	Appearance	Sample Treatment	ASBESTOS %	ASBESTOS Type	NON ASBESTOS %	NON ASBESTOS Fibrous	NON ASBESTOS %	NON ASBESTOS Non-Fibrous
13		Bla k No -Fibrous Ho nogeneous	Teased	5%	Chrysotile		None Detected	95%	Other
14		Bla k No -Fibrous Ho nogeneous	Teased	5%	Chrysotile		None Detected	95%	Other
15/A NO TEXTURE FOUND					Not Analyzed				
15/B WALLBOARD		Wh te Fib ous Ho nogeneous	Teased		None Detected	30%	Cellulose	70%	Other
16/A NO TEXTURE FOUND					Not Analyzed				
16/B WALLBOARD		Wh te Fib ous Ho nogeneous	Teased		None Detected	30%	Cellulose	70%	Other

Comments: For all obviously heterogenec is samples easily separated into subsamples, and for layered samples, each component is analyzed separately. Also, "# of Layers" refers to number of se arable subsamples.

* NY samples analyzed by ELAP 198.1 M thod.

Roshaun Wilkerson
Analyst

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Viva Environmen :al
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El Paso, TX 7991 5

Tuesday, July 16, 2002

Ref Number: DA021565

POLARIZED LIGHT MICROSCOPY (PLM)

Performed by EPA 600/R-93/116 Method*

Project: WSMR14.1.36 BUILDING 160

Sample	Location	Appearance	Sample Treatment	ASBESTOS % Type	NON-ASBESTOS % Fibrous	% Non-Fibrous
17/A NO TEXTURE FOUND				Not Analyzed		
17/B WALLBOARD		White Fibrous Homogeneous	Teased	None Detected	30% Cellulose	70% Other
18		White Non-Fibrous Homogeneous	Teased	None Detected	None Detected	100% Other
19		White Non-Fibrous Homogeneous	Teased	None Detected	None Detected	100% Other
20		White Non-Fibrous Homogeneous	Teased	None Detected	None Detected	100% Other
21/A TEXTURE		White Non-Fibrous Homogeneous	Teased	None Detected	None Detected	100% Other

Comments: For all obviously heteroge eous samples easily separated into subsamples, and for layered samples, each component is analyzed separately. Also, "# of Layers" refers to number of separable subsamples.

* NY samples analyzed by ELAP 198. Method.

Roshaun Wilkerson
Analyst

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Signatory

Analysis performed by EMSL Dallas (NVLAP Air and Bulk #200034, Texas Dept. of Health 30-0181)

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Tuesday, July 16, 2002

Ref Number: DA021565

POLARIZED LIGHT MICROSCOPY (PLM)

Performed by EPA 600/R-93/116 Method*

Project: WSMR14.1.36 BUILDING 160

Sample	Location	Appearance	Sample Treatment	ASBESTOS %	ASBESTOS Type	NON ASBESTOS %	NON ASBESTOS Fibrous	%	Non-Fibrous
21/B WALLBOARD		White Fibrous Homogeneous	Teased	None Detected		30%	Cellulose	70%	Other
22/A TEXTURE		White Non-Fibrous Homogeneous	Teased	None Detected		None Detected		100%	Other
22/B WALLBOARD		White Fibrous Homogeneous	Teased	None Detected		30%	Cellulose	70%	Other
23/A TEXTURE		White Non-Fibrous Homogeneous	Teased	None Detected		None Detected		100%	Other
23/B WALLBOARD		White Fibrous Homogeneous	Teased	None Detected		30%	Cellulose	70%	Other
24/A MASTIC		Yellow Non-Fibrous Homogeneous	Teased	None Detected		None Detected		100%	Other

Comments: For all obviously heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately. Also, "# of Layers" refers to number of separable subsamples.

* NY samples analyzed by ELAP 198.1 Method.

Roshaun Wilkerson
Analyst

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Signatory

Disclaimers: PLM has been known to miss asbestos in a small percentage of samples which contain asbestos. Thus negative PLM results cannot be guaranteed. EMSL suggests that samples reported as <1% or none detected be tested with either SEM or TEM. The above test report relates only to the items tested. This report may not be reproduced, except in full, without written approval by EMSL. The above test must not be used by the client to claim product endorsement by NVLAP nor any agency of the United States Government. Laboratory is not responsible for the accuracy of results when requested to physically separate and analyze layered samples.
Analysis performed by EMSL Dallas (NVLAP Air and Bulk #200034, Texas Dept. of Health 30-0161)

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Tuesday, July 16, 2002

Ref Number: DA021565

POLARIZED LIGHT MICROSCOPY (PLM)

Performed by EPA 600/R-93/116 Method*

Project: WSMR14.1.36 BUILDING 160

Sample	Location	Appearance	Sample Treatment	ASBESTOS %	ASBESTOS Type	NON ASBESTOS %	NON ASBESTOS Fibrous	NON ASBESTOS %	NON ASBESTOS Non-Fibrous
24/B WALLBOARD		White Fibrous Homogeneous	Teased		None Detected		30% Cellulose		70% Other
25/A WALL MASTIC		Yellow Non-Fibrous Homogeneous	Teased		None Detected		None Detected		100% Other
25/B WALLBOARD		White Fibrous Homogeneous	Teased		None Detected		30% Cellulose		70% Other
26/A WALL MASTIC		Yellow Non-Fibrous Homogeneous	Teased		None Detected		None Detected		100% Other
26/B WALLBOARD		White Fibrous Homogeneous	Teased		None Detected		30% Cellulose		70% Other
27/A WALL MASTIC		Gre / Non-Fibrous Homogeneous	Teased		None Detected		None Detected		100% Other

Comments: For all obviously heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately. Also, "# of Layers" refers to number of separable subsamples.

* NY samples analyzed by ELAP 198.1 Method.

Roshaun Wilkerson
Analyst

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Tuesday, July 16, 2002

Ref Number: DA021565

'OLARIZED LIGHT MICROSCOPY (PLM)

Performed by EPA 600/R-93/116 Method*

Project: WSMR14.1.36 BUILDING 160

Sample	Location	Appearance	Sample Treatment	ASBESTOS %	ASBESTOS Type	NON-ASBESTOS %	NON-ASBESTOS Fibrous	NON-ASBESTOS %	NON-ASBESTOS Non-Fibrous
27/B WALLBOARD		W ite Fi rous H mogeneous	Teased	None Detected		30%	Cellulose	70%	Other
28/A WALL MASTIC		G ey N n-Fibrous H mogeneous	Teased	None Detected		None Detected		100%	Other
28/B WALLBOARD		W ite Fi rous H mogeneous	Teased	None Detected		30%	Cellulose	70%	Other
29/A WALL MASTIC		G ey N n-Fibrous H mogeneous	Teased	None Detected		None Detected		100%	Other
29/B WALLBOARD		W ite Fi rous H mogeneous	Teased	None Detected		30%	Cellulose	70%	Other
30/A FLOORTILE		T n N n-Fibrous H mogeneous	Teased	None Detected		None Detected		100%	Other

Comments: For all obviously heterogene us samples easily separated into subsamples, and for layered samples, each component is analyzed separately. Also, "# of Layers" refers to number of se parable subsamples.

* NY samples analyzed by ELAP 198.1 M ethod.

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Tuesday, July 16, 2002

Ref Number: DA021565

POLARIZED LIGHT MICROSCOPY (PLM)

Performed by EPA 600/R-93/116 Method*

Project: WSMR14.1.36 BUILDING 160

Sample	Location	Appearance	Sample Treatment	ASBESTOS %	ASBESTOS Type	NON ASBESTOS %	NON ASBESTOS Fibrous	NON ASBESTOS %	NON ASBESTOS Non-Fibrous
30/B MASTIC		Bla ck/Yellow No -Fibrous Ho mogeneous	Teased	None Detected		None Detected		100%	Other
31/A FLOORTILE		Ta No -Fibrous Ho mogeneous	Teased	None Detected		None Detected		100%	Other
31/B MASTIC		Bla ck/Yellow No -Fibrous Ho mogeneous	Teased	None Detected		None Detected		100%	Other
32/A FLOORTILE		Ta No -Fibrous Ho mogeneous	Teased	None Detected		None Detected		100%	Other
32/B MASTIC		Bl ck/Yellow No -Fibrous Ho mogeneous	Teased	None Detected		None Detected		100%	Other
33/A FLOORTILE		Br wn No -Fibrous Ho mogeneous	Teased	None Detected		None Detected		100%	Other

Comments: For all obviously heterogenec is samples easily separated into subsamples, and for layered samples, each component is analyzed separately
Also, "# of Layers" refers to number of se arable subsamples.

* NY samples analyzed by ELAP 198.1 M ethod.

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Ref Number: DA021565

POLARIZED LIGHT MICROSCOPY (PLM)

Performed by EPA 600/R-93/116 Method*

Project: WSMR14.1.36 BUILDING 160

Sample	Location	Appearance	Sample Treatment	ASBESTOS %	ASBESTOS Type	NON-ASBESTOS %	NON-ASBESTOS Fibrous	NON-ASBESTOS %	NON-ASBESTOS Non-Fibrous
33/B MASTIC		Black Non-Fibrous Homogeneous	Teased	5%	Chrysotile		None Detected	95%	Other
34/A FLOORTILE		Brown Non-Fibrous Homogeneous	Teased		None Detected		None Detected	100%	Other
34/B MASTIC		Black Non-Fibrous Homogeneous	Teased	5%	Chrysotile		None Detected	95%	Other
35/A FLOORTILE		Brown Non-Fibrous Homogeneous	Teased		None Detected		None Detected	100%	Other
35/B MASTIC		Black Non-Fibrous Homogeneous	Teased	5%	Chrysotile		None Detected	95%	Other
36		White Non-Fibrous Homogeneous	Teased		None Detected		None Detected	100%	Other

Comments: For all obviously heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately Also, "# of Layers" refers to number of separable subsamples.

* NY samples analyzed by ELAP 198.1 Method.

Roshaun Wilkerson
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Analysis performed by EMSL Dallas (NVLAP All and Bulk #200054, Texas Dept. of Health 30 0181)

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Tuesday, July 16, 2002

Ref Number: DA021565

POLARIZED LIGHT MICROSCOPY (PLM)

Performed by EPA 600/R-93/116 Method*

Project: WSMR14.1.36 BUILDING 160

Sample	Location	Appearance	Sample Treatment	ASBESTOS %	ASBESTOS Type	NON ASBESTOS %	NON ASBESTOS Fibrous	NON ASBESTOS %	NON ASBESTOS Non-Fibrous
37		Wh te No -Fibrous Ho nogeneous	Teased	None Detected		None Detected		100%	Other
38		Wh te No -Fibrous Ho nogeneous	Teased	None Detected		None Detected		100%	Other
39		Br wn No -Fibrous Ho nogeneous	Teased	None Detected		None Detected		100%	Other
40		Br wn No -Fibrous Ho nogeneous	Teased	None Detected		None Detected		100%	Other
41		Br wn No -Fibrous Ho nogeneous	Teased	None Detected		None Detected		100%	Other
42		Bl ck No -Fibrous Ho nogeneous	Teased	None Detected		None Detected		100%	Other

Comments: For all obviously heterogenec is samples easily separated into subsamples, and for layered samples, each component is analyzed separately. Also, "# of Layers" refers to number of se arable subsamples.

* NY samples analyzed by ELAP 198.1 M ethod.

Roshaun Wilkerson
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Ref Number: DA021565

POLARIZED LIGHT MICROSCOPY (PLM)

Performed by EPA 600/R-93/116 Method*

Project: WSMR14.1.36 BUILDING 160

Sample	Location	Appearance	Sample Treatment	ASBESTOS %	ASBESTOS Type	NON-ASBESTOS %	NON-ASBESTOS Fibrous	NON-ASBESTOS %	NON-ASBESTOS Non-Fibrous
43		Bl ck N n-Fibrous H mogeneous	Teased		None Detected		None Detected	100%	Other
44		Bl ck N n-Fibrous H mogeneous	Teased		None Detected		None Detected	100%	Other
45		Y llow/Black N n-Fibrous H mogeneous	Teased		None Detected		None Detected	100%	Other
46		Y llow/Black N n-Fibrous H mogeneous	Teased		None Detected		None Detected	100%	Other
47		Y llow/Black N n-Fibrous H mogeneous	Teased		None Detected		None Detected	100%	Other
48/A FLOORTILE		G ay N n-Fibrous H mogeneous	Teased	3%	Chrysotile		None Detected	97%	Other

Comments: For all obviously heterogene us samples easily separated into subsamples, and for layered samples, each component is analyzed separately. Also, "# of Layers" refers to number of se arable subsamples.

* NY samples analyzed by ELAP 198.1 M ethod.

Roshaun Wilkerson
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Analysis performed by EMSL Dallas (NVLAP Air and Bulk #200034, Texas Dept. of Health 30-0181)

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Tuesday, July 16, 2002

Ref Number: DA021565

POLARIZED LIGHT MICROSCOPY (PLM)

Performed by EPA 600/R-93/116 Method*

Project: WSMR14.1.36 BUILDING 160

Sample	Location	Appearance	Sample Treatment	ASBESTOS %	ASBESTOS Type	NON-ASBESTOS %	NON-ASBESTOS Fibrous	NON-ASBESTOS %	NON-ASBESTOS Non-Fibrous
48/B MASTIC		Black Non-Fibrous Homogeneous	Teased		None Detected		None Detected	100%	Other
49/A FLOORTILE		Gray Non-Fibrous Homogeneous	Teased		3% Chrysotile		None Detected	97%	Other
49/B MASTIC		Black Non-Fibrous Homogeneous	Teased		None Detected		None Detected	100%	Other
50/A FLOORTILE		Gray Non-Fibrous Homogeneous	Teased		3% Chrysotile		None Detected	97%	Other
50/B MASTIC		Black Non-Fibrous Homogeneous	Teased		None Detected		None Detected	100%	Other
51		Gray Non-Fibrous Homogeneous	Teased		None Detected		60% Glass	40%	Other

Comments: For all obviously heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately. Also, "# of Layers" refers to number of separable subsamples.

* NY samples analyzed by ELAP 198.1 Method.

Roshaun Wilkerson
Analyst

Approved Signatory

Analysis performed by EMSL Dallas (NVLAP Air and Bulk #200034, Texas Dept. of Health 30-0161)

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Attn.: Mark Ayoub
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7201 Stiles
El Paso, TX 7991

Tuesday, July 16, 2002

Ref Number: DA021565

POLARIZED LIGHT MICROSCOPY (PLM)

Performed by EPA 600/R-93/116 Method*

Project: WSMR14.1.36 BUILDING 160

Sample	Location	Appearance	Sample Treatment	ASBESTOS %	ASBESTOS Type	NON-ASBESTOS %	NON-ASBESTOS Fibrous	NON-ASBESTOS %	NON-ASBESTOS Non-Fibrous
52		G ey Fi rous H mogeneous	Teased		None Detected		40% Glass		60% Other
53		G ey Fi rous H mogeneous	Teased		None Detected		40% Glass		60% Other
54		W hite/Yellow F rous H mogeneous	Teased		None Detected		90% Glass		10% Other
55		W hite/Yellow F rous H mogeneous	Teased		None Detected		90% Glass		10% Other
56		W hite/Yellow F rous H mogeneous	Teased		None Detected		90% Glass		10% Other
57		G ey F brous H mogeneous	Teased		None Detected		60% Glass		40% Other

Comments: For all obviously heterogene ous samples easily separated into subsamples, and for layered samples, each component is analyzed separately. Also, "# of Layers" refers to number of s parable subsamples.

* NY samples analyzed by ELAP 198.1 lethod.

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Tuesday, July 16, 2002

Ref Number: DA021565

POLARIZED LIGHT MICROSCOPY (PLM)

Performed by EPA 600/R-93/116 Method*

Project: WSMR14.1.36 BUILDING 160

Sample	Location	Appearance	Sample Treatment	ASBESTOS %	ASBESTOS Type	NON-ASBESTOS %	NON-ASBESTOS Fibrous	NON-ASBESTOS %	NON-ASBESTOS Non-Fibrous
58		Gray Fibrous Homogeneous	Teased		None Detected	60%	Glass	40%	Other
59		Gray Fibrous Homogeneous	Teased		None Detected	60%	Glass	40%	Other
60		Brown Fibrous Homogeneous	Teased		None Detected	90%	Cellulose	10%	Other
61		Brown Fibrous Homogeneous	Teased		None Detected	90%	Cellulose	10%	Other
62		Brown Fibrous Homogeneous	Teased		None Detected	90%	Cellulose	10%	Other
63		White Non-Fibrous Homogeneous	Teased		None Detected		None Detected	100%	Other

Comments: For all obviously heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately. Also, "# of Layers" refers to number of separable subsamples.

* NY samples analyzed by ELAP 198.1 Method.

Roshaun Wilkerson
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Analysis performed by EMSL Dallas (NVLAP Air and Bulk #200034, Texas Dept. of Health 30-0181)

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Ref Number: DA021565

POLARIZED LIGHT MICROSCOPY (PLM)

Performed by EPA 600/R-93/116 Method*

Project: WSMR14.1.36 BUILDING 160

Sample	Location	Appearance	Sample Treatment	ASBESTOS % Type	NON ASBESTOS % Fibrous	% Non-Fibrous
64		White Non-Fibrous Homogeneous	Teased	5% Chrysotile	None Detected	95% Other
65		Tan Non-Fibrous Homogeneous	Teased	5% Chrysotile	None Detected	95% Other
66		Tan/Yellow Fibrous Homogeneous	Teased	None Detected	90% Glass	10% Other
67		Tan/Yellow Fibrous Homogeneous	Teased	None Detected	90% Glass	10% Other
68		Tan/Yellow Fibrous Homogeneous	Teased	None Detected	90% Glass	10% Other
69		Gray Non-Fibrous Homogeneous	Teased	5% Chrysotile	None Detected	95% Other

Comments: For all obviously heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately. Also, "# of Layers" refers to number of separable subsamples.

* NY samples analyzed by ELAP 198.1 Method.

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Analysis performed by EMSL Dallas (NVLAP Air and Bulk #200034, Texas Dept. of Health 30-0101)

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Ref Number: DA021565

POLARIZED LIGHT MICROSCOPY (PLM)

Performed by EPA 600/R-93/116 Method*

Project: WSMR14.1.36 BUILDING 160

Sample	Location	Appearance	Sample Treatment	ASBESTOS %	ASBESTOS Type	NON-ASBESTOS %	NON-ASBESTOS Fibrous	NON-ASBESTOS %	NON-ASBESTOS Non-Fibrous
70		Gray Non-Fibrous Homogeneous	Teased	5%	Chrysotile		None Detected	95%	Other
71		Gray Non-Fibrous Homogeneous	Teased	5%	Chrysotile		None Detected	95%	Other
72		White Non-Fibrous Homogeneous	Teased		None Detected		None Detected	100%	Other
73		White Non-Fibrous Homogeneous	Teased		None Detected		None Detected	100%	Other
74		White Non-Fibrous Homogeneous	Teased		None Detected		None Detected	100%	Other
75		Beige Non-Fibrous Homogeneous	Teased	5%	Chrysotile		None Detected	95%	Other

Comments: For all obviously heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately. Also, "# of Layers" refers to number of separable subsamples.

* NY samples analyzed by ELAP 198.1 Method.

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Ref Number: DA021565

POLARIZED LIGHT MICROSCOPY (PLM)

Performed by EPA 600/R-93/116 Method*

Project: WSMR14.1.36 BUILDING 160

Sample	Location	Appearance	Sample Treatment	ASBESTOS %	ASBESTOS Type	NON ASBESTOS %	NON ASBESTOS Fibrous	NON ASBESTOS %	NON ASBESTOS Non-Fibrous
76		Beige Non-Fibrous Homogeneous	Teased	5%	Chrysotile		None Detected	95%	Other
77		Beige Non-Fibrous Homogeneous	Teased	5%	Chrysotile		None Detected	95%	Other
78		White Non-Fibrous Homogeneous	Teased		None Detected		None Detected	100%	Other
79		White Non-Fibrous Homogeneous	Teased		None Detected		None Detected	100%	Other
80		White Non-Fibrous Homogeneous	Teased		None Detected		None Detected	100%	Other
81		Black Non-Fibrous Homogeneous	Teased		None Detected		None Detected	100%	Other

Comments: For all obviously heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately. Also, "# of Layers" refers to number of separable subsamples.

* NY samples analyzed by ELAP 198.1 Method.

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Tuesday, July 16, 2002

Ref Number: DA021565

POLARIZED LIGHT MICROSCOPY (PLM)

Performed by EPA 600/R-93/116 Method*

Project: WSMR14.1.36 BUILDING 160

Sample	Location	Appearance	Sample Treatment	ASBESTOS % Type	NON-ASBESTOS % Fibrous	% Non-Fibrous
82		Black Non-Fibrous Homogeneous	Teased	None Detected	None Detected	100% Other
83		Black Non-Fibrous Homogeneous	Teased	None Detected	None Detected	100% Other
84		Beige Non-Fibrous Homogeneous	Teased	5% Chrysotile	None Detected	95% Other
85		Beige Non-Fibrous Homogeneous	Teased	5% Chrysotile	None Detected	95% Other
86		Beige Non-Fibrous Homogeneous	Teased	5% Chrysotile	None Detected	95% Other
87		White Non-Fibrous Homogeneous	Teased	None Detected	None Detected	100% Other

Comments: For all obviously heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately Also, "# of Layers" refers to number of separable subsamples.

* NY samples analyzed by ELAP 198.1 Method.

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Ref Number: DA021565

POLARIZED LIGHT MICROSCOPY (PLM)

Performed by EPA 600/R-93/116 Method*

Project: WSMR14.1.36 BUILDING 160

Sample	Location	Appearance	Sample Treatment	ASBESTOS % Type	NON-ASBESTOS % Fibrous	% Non-Fibrous
88		White Non-Fibrous Homogeneous	Teased	5% Chrysotile	None Detected	95% Other
89		White Non-Fibrous Homogeneous	Teased	None Detected	None Detected	100% Other
90		White Non-Fibrous Homogeneous	Teased	None Detected	None Detected	100% Other
91		White Non-Fibrous Homogeneous	Teased	None Detected	None Detected	100% Other
92		White Non-Fibrous Homogeneous	Teased	None Detected	None Detected	100% Other
93		Gray Non-Fibrous Homogeneous	Teased	None Detected	None Detected	100% Other

Comments: For all obviously heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately. Also, "# of Layers" refers to number of separable subsamples.

* NY samples analyzed by ELAP 198.1 Method.

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POLARIZED LIGHT MICROSCOPY (PLM)

Performed by EPA 600/R-93/116 Method*

Project: WSMR14.1.36 BUILDING 160

Sample	Location	Appearance	Sample Treatment	ASBESTOS %	ASBESTOS Type	NON ASBESTOS %	NON ASBESTOS Fibrous	NON ASBESTOS %	NON ASBESTOS Non-Fibrous
94		Gr y No -Fibrous Ho nogeneous	Teased	3%	Chrysotile		None Detected	97%	Other
95		Gr y No -Fibrous Ho nogeneous	Teased		None Detected		None Detected	100%	Other
96		Gr y No n-Fibrous Ho nogeneous	Teased		None Detected		None Detected	100%	Other
97		Be ge No n-Fibrous Ho nogeneous	Teased		None Detected		None Detected	100%	Other
98		Be ge No n-Fibrous Ho nogeneous	Teased		None Detected		None Detected	100%	Other
99		W ite No n-Fibrous Ho nogeneous	Teased		None Detected		None Detected	100%	Other

Comments: For all obviously heterogenec us samples easily separated into subsamples, and for layered samples, each component is analyzed separately. Also, "# of Layers" refers to number of se arable subsamples.

* NY samples analyzed by ELAP 198.1 M ethod.

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POLARIZED LIGHT MICROSCOPY (PLM)

Performed by EPA 600/R-93/116 Method*

Project: WSMR14.1.36 BUILDING 160

Sample	Location	Appearance	Sample Treatment	ASBESTOS %	ASBESTOS Type	NON ASBESTOS %	NON ASBESTOS Fibrous	NON ASBESTOS %	NON ASBESTOS Non-Fibrous
100		Be ge No n-Fibrous Ho mogeneous	Teased		None Detected		None Detected	100%	Other
101		W ite No n-Fibrous Ho mogeneous	Teased		None Detected		None Detected	100%	Other
102		G ey No n-Fibrous Ho mogeneous	Teased	5%	Chrysotile		None Detected	95%	Other
103		G ey No n-Fibrous Ho mogeneous	Teased	5%	Chrysotile		None Detected	95%	Other
104		W ite No n-Fibrous Ho mogeneous	Teased		None Detected		None Detected	100%	Other
105		W ite No n-Fibrous Ho mogeneous	Teased		None Detected		None Detected	100%	Other

Comments: For all obviously heterogene us samples easily separated into subsamples, and for layered samples, each component is analyzed separately. Also, "# of Layers" refers to number of se parable subsamples.

* NY samples analyzed by ELAP 198.1 M ethod.

Roshaun Wilkerson
Analyst

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Disclaimers: PLM has een known to miss asbestos in a small percentage of samples which contain asbestos. Thus negative PLM results cannot be guaranteed. EMSL sug ests that samples reported as <1% or none detected be tested with either SEM or TEM. The above test report relates only to the items tested. This r port may not be reproduced, except in full, without written approval by EMSL. The above test must not be used by the client to claim product endorser nt by NVLAP nor any agency of the United States Government. Laboratory is not responsible for the accuracy of results when requested to physically eparate and analyze layered samples.
Analysis performed by MSL Dallas (NVLAP Air and Bulk #200054, Texas Dept. of Health 30-0101)

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Tuesday, July 16, 2002

Ref Number: DA021565

POLARIZED LIGHT MICROSCOPY (PLM)

Performed by EPA 600/R-93/116 Method*

Project: WSMR14.1.36 BUILDING 160

Sample	Location	Appearance	Sample Treatment	ASBESTOS % Type	NON-ASBESTOS % Fibrous	% Non-Fibrous
106		White Non-Fibrous Homogeneous	Teased	None Detected	None Detected	100% Other
107		Orange Fibrous Homogeneous	Teased	None Detected	80% Glass	20% Other
108		Orange Fibrous Homogeneous	Teased	None Detected	80% Glass	20% Other
109		Orange Fibrous Homogeneous	Teased	None Detected	80% Glass	20% Other
110		White Non-Fibrous Homogeneous	Teased	None Detected	None Detected	100% Other
111		White Non-Fibrous Homogeneous	Teased	None Detected	None Detected	100% Other

Comments: For all obviously heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately Also, "# of Layers" refers to number of separable subsamples.

* NY samples analyzed by ELAP 198.1 Method.

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Ref Number: DA021565

POLARIZED LIGHT MICROSCOPY (PLM)

Performed by EPA 600/R-93/116 Method*

Project: WSMR14.1.36 BUILDING 160

Sample	Location	Appearance	Sample Treatment	ASBESTOS %	ASBESTOS Type	NON ASBESTOS %	NON ASBESTOS Fibrous	NON ASBESTOS %	NON ASBESTOS Non-Fibrous
112		White Non-Fibrous Homogeneous	Teased		None Detected		None Detected	100%	Other
113		Black/Silver Fibrous Homogeneous	Teased		None Detected		None Detected	100%	Other
114		Black/Silver Fibrous Homogeneous	Teased		None Detected		None Detected	100%	Other
115		Black/Silver Fibrous Homogeneous	Teased		None Detected		None Detected	100%	Other
116		Black/Silver Fibrous Homogeneous	Teased		None Detected		None Detected	100%	Other
117		Black/Silver Fibrous Homogeneous	Teased		None Detected		None Detected	100%	Other

Comments: For all obviously heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately. Also, "# of Layers" refers to number of separable subsamples.

* NY samples analyzed by ELAP 198.1 Method.

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Analysis performed by EMSL Dallas (NVLAP Air and Bulk #200034, Texas Dept. of Health 30-0101)

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Tuesday, July 16, 2002

Ref Number: DA021565

POLARIZED LIGHT MICROSCOPY (PLM)

Performed by EPA 600/R-93/116 Method*

Project: WSMR14.1.36 BUILDING 160

Sample	Location	Appearance	Sample Treatment	ASBESTOS %	ASBESTOS Type	NON-ASBESTOS %	NON-ASBESTOS Fibrous	NON-ASBESTOS %	NON-ASBESTOS Non-Fibrous
118		Bla k/Silver Fib ous Ho nogeneous	Teased		None Detected		None Detected	100%	Other
119		Bla k Fib ous Ho nogeneous	Teased		None Detected		None Detected	100%	Other
120		Bla k Fib ous Ho nogeneous	Teased		None Detected		None Detected	100%	Other
121		Bla k Fib ous Ho nogeneous	Teased		None Detected	60%	Cellulose	40%	Other
122		Gr y No -Fibrous Ho nogeneous	Teased		None Detected		None Detected	100%	Other
123		Gr y No -Fibrous Ho nogeneous	Teased		None Detected		None Detected	100%	Other

Comments: For all obviously heterogeneo s samples easily separated into subsamples, and for layered samples, each component is analyzed separately. Also, "# of Layers" refers to number of sep arable subsamples.

* NY samples analyzed by ELAP 198.1 M thod.

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Ref Number: DA021565

POLARIZED LIGHT MICROSCOPY (PLM)

Performed by EPA 600/R-93/116 Method*

Project: WSMR14.1.36 BUILDING 160

Sample	Location	Appearance	Sample Treatment	ASBESTOS %	ASBESTOS Type	NON ASBESTOS %	NON ASBESTOS Fibrous	NON ASBESTOS %	NON ASBESTOS Non-Fibrous
124		Gr ey Nc n-Fibrous Hc mogeneous	Teased	None Detected		None Detected		100%	Other
125		Gr ey Nc n-Fibrous Hc mogeneous	Teased	None Detected		None Detected		100%	Other
126		Gr ey Nc n-Fibrous Hc mogeneous	Teased	None Detected		None Detected		100%	Other
127		Gr ey Nc n-Fibrous Hc mogeneous	Teased	None Detected		None Detected		100%	Other
128		Gr ey Nc n-Fibrous Hc mogeneous	Teased	None Detected		None Detected		100%	Other
129		Gr ey Nc n-Fibrous Hc mogeneous	Teased	None Detected		None Detected		100%	Other

Comments: For all obviously heterogenec us samples easily separated into subsamples, and for layered samples, each component is analyzed separately. Also, "# of Layers" refers to number of se arable subsamples.

* NY samples analyzed by ELAP 198.1 M ethod.

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Ref Number: DA021565

POLARIZED LIGHT MICROSCOPY (PLM)

Performed by EPA 600/R-93/116 Method*

Project: WSMR14.1.36 BUILDING 160

Sample	Location	Appearance	Sample Treatment	ASBESTOS % Type	NON-ASBESTOS % Fibrous	% Non-Fibrous
130		Gr y No n-Fibrous Ho mogeneous	Teased	None Detected	None Detected	100% Other
131		Ta n No n-Fibrous Ho mogeneous	Teased	5% Chrysotile	None Detected	95% Other
132		Ta n No n-Fibrous Ho mogeneous	Teased	5% Chrysotile	None Detected	95% Other
133		Ta n No n-Fibrous Ho mogeneous	Teased	5% Chrysotile	None Detected	95% Other
134		Gr y No n-Fibrous Ho mogeneous	Teased	None Detected	None Detected	100% Other
135		Gr y No n-Fibrous Ho mogeneous	Teased	None Detected	None Detected	100% Other

Comments: For all obviously heterogeneo us samples easily separated into subsamples, and for layered samples, each component is analyzed separately. Also, "# of Layers" refers to number of se arable subsamples.

* NY samples analyzed by ELAP 198.1 M ethod.

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Tuesday, July 16, 2002

Ref Number: DA021565

POLARIZED LIGHT MICROSCOPY (PLM)

Performed by EPA 600/R-93/116 Method*

Project: WSMR14.1.36 BUILDING 160

Sample	Location	Appearance	Sample Treatment	ASBESTOS %	ASBESTOS Type	NON ASBESTOS %	NON ASBESTOS Fibrous	%	Non-Fibrous
136		Gray Non-Fibrous Homogeneous	Teased	None Detected		None Detected		100%	Other
137		Gray Non-Fibrous Homogeneous	Teased	None Detected		None Detected		100%	Other
138		Tan Non-Fibrous Homogeneous	Teased	None Detected		None Detected		100%	Other
139		Gray Non-Fibrous Homogeneous	Teased	None Detected		None Detected		100%	Other

Comments: For all obviously heterogeneous samples easily separated into subsamples, and for layered samples, each component is analyzed separately. Also, "# of Layers" refers to number of separable subsamples.

* NY samples analyzed by ELAP 198.1 Method.

Roshaun Wilkerson
Analyst

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Analysis performed by EMSL Dallas (NVLAP Air and Bulk #200034, Texas Dept. of Health 30-0101)

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VIVA ENVIRONMENTAL, INC.
The Future Is Clear!

ASBESTOS SURVEY CHAIN OF CUSTODY

CLIENT NAME: WSMR
SURVEY ADDRESS: BUILDING 180
CITY/STATE/ZIP: WSMR, N.M.

PROJECT #: WSMR14J-36 DATE: 7/9/02
INSPECTOR: A.G. M.A.
TAT: BULK PLM EPA 600

Homo#	Sample #	Material Description	Functional Homogeneous location	Sample location
1	1	INSULATION		
↓	2			
↓	3	↓		
2	4	ACOUSTIC TILE		
↓	5	↓		
	6			
3	7	PLASTER		
↓	8			
	9			
	10			
↓	11	↓		
4	12	MASTIC [illegible]		
↓	13			
	14	↓		
5	15	TEXTURE, TAPE, SHTRK		
↓	16	↓		
↓	17	↓		
6	18	PLASTER		
↓	19	↓		
	20			
7	21	[illegible], WALLBOARD		
↓	22	↓		
↓	23			
8	24	[illegible], WALLBOARD		

Relinquished by: [signature] Date: 7/9/02 Received by: [signature] Date: 7/10/02 10:00 am

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VIVA ENVIRONMENTAL, INC.
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ASBESTOS SURVEY CHAIN OF CUSTODY

CLIENT NAME: [illegible]
SURVEY ADDRESS BUILDING 160
CITY/STATE/ZIP [illegible]

PROJECT # [illegible] DATE [illegible]
INSPECTOR A.O., M.A.
TAT ________ BULK PLM EPA 600

Homo#	Sample #	Material Description	Functional Homogeneous location	Sample location
5	25	TILE MASTIC/WALLBOARD		
↓	26	↓		
[illegible]	27	[illegible] MASTIC/WALLBOARD		
	[illegible]			
↓	[illegible]	↓		
[illegible]	[illegible]	FLOOR TILE/MASTIC		
↓	41	↓		
	[illegible]			
[illegible]	[illegible]	F[illegible] TILE/MASTIC		
	[illegible]			
↓	[illegible]	↓		
[illegible]	[illegible]	COVE BASE/MASTIC		
↓	[illegible]	↓		
	[illegible]			
[illegible]	[illegible]	COVE BASE MASTIC		
	[illegible]			
↓	[illegible]	↓		
[illegible]	[illegible]	[illegible] MASTIC		
	[illegible]			
↓	47	↓		
15	[illegible]	[illegible] UNDER CARPET		
	[illegible]			
↓	[illegible]	↓		
[illegible]	48	FLOOR TILE/MASTIC		

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Viva Environmental, Inc.
7201 Stiles
El Paso, Texas 79915
(915) 779-5395
(915) 779-5397

VIVA ENVIRONMENTAL, INC. The Future Is Clear!

ASBESTOS SURVEY CHAIN OF CUSTODY

CLIENT NAME: [illegible]
SURVEY ADDRESS [illegible]
CITY/STATE/ZIP [illegible]

PROJECT # [illegible] DATE 2/9/02
INSPECTOR A. G., M. A.
TAT BULK PLM EPA 600

Homo#	Sample #	Material Description	Functional Homogeneous location	Sample location
16	49	[illegible]		
↓	50	↓		
17	51	CLOTH TSI - ELBOWS, JOINTS		
↓	52	↓		
↓	53	↓		
18	54	PAPER TSI - STRAIGHT RUNS		
↓	55	↓		
↓	56	↓		
19	57	CLOTH TSI - ELBOWS, JOINTS		
↓	58	↓		
↓	59	↓		
	60	[illegible] DAMPERS		
↓	61	↓		
↓	62	↓		
20	63	CAULKING		
↓	64	↓		
↓	65	↓		
21	66	CLOTH TSI - STRAIGHT RUNS		
↓	67	↓		
↓	68	↓		
22	69	CAULKING		
↓	70	↓		
↓	71	↓		
23	72	CAULKING		

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3

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VIVA ENVIRONMENTAL, INC. *The Future Is Clear!*

ASBESTOS SURVEY CHAIN OF CUSTODY

CLIENT NAME: WSMR
SURVEY ADDRESS BUILDING 160
CITY/STATE/ZIP [illegible], N.M.

PROJECT # WSMR 14.1.36 DATE 7/9/02
INSPECTOR A.Q. M.A.
TAT BULK PLM EPA 600

Homo#	Sample #	Material Description	Functional Homogeneous location	Sample location
[illegible]	[illegible]	CAULK		
↓	↓	↓		
[illegible]	15	CAULKING		
↓	[illegible]	↓		
[illegible]	[illegible]	PANEL MATERIAL		
↓	[illegible]	↓		
[illegible]	[illegible]	CAULKING		
↓	[illegible]	↓		
[illegible]	[illegible]	CAULKING		
↓	[illegible]	↓		
[illegible]	[illegible]	CAULKING		
↓	[illegible]	↓		
[illegible]	[illegible]	CAULKING		
↓	[illegible]	↓		
[illegible]	[illegible]	CAULKING		
↓	[illegible]	↓		
[illegible]	[illegible]	[illegible] MATERIALS		
[illegible]	[illegible]	↓		
↓	[illegible]	↓		

Relinquished by: [signature] Date: 7/9/02 Received by: [signature] Date: 7/10/02

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VIVA ENVIRONMENTAL, INC. *The Future Is Clear!*

ASBESTOS SURVEY CHAIN OF CUSTODY

CLIENT NAME: WSMR
SURVEY ADDRESS BUILDING 160
CITY/STATE/ZIP WSMR, N.M.

PROJECT # WSMR04.1.36 DATE 7/9/02
INSPECTOR A. CH. M.A.
TAT BULK PLM EPA 600

Homo#	Sample #	Material Description	Functional Homogeneous location	Sample location
01	1	ROOFING MATERIALS		
	2	MASTIC		
↓	3	↓		
	4	CAULKING		
↓	5	↓		
02	6	CAULKING		
↓	7	↓		
03	8	12" FLOOR TILE - STRAIGHT RUN		
↓	9	↓		
04	10	CAULKING		
↓	11	↓		
05	12	FLASHING		
↓	13	↓		
	14	CAULKING		
↓	15	↓		
06	16	ROOFING MATERIALS		
↓	17	↓		

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5.

Viva Environmental, Inc.
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The Future Is Clear!

ASBESTOS SURVEY CHAIN OF CUSTODY

CLIENT NAME: [illegible]
SURVEY ADDRESS [illegible]
CITY/STATE/ZIP [illegible]

PROJECT #WSMR 14.1.36 DATE 7/9/07
INSPECTOR A.G., M.A.
TAT [illegible] BULK PLM EPA 600

Homo#	Sample #	Material Description	Functonal Homogeneous location	Sample location
39	121	[illegible] MATERIAL		
40	122	SEALANT		
↓	123	↓		
↓	124	↓		
41	125	CAULKING		
↓	126	↓		
↓	127	↓		
42	128	CAULKING		
↓	129	↓		
↓	130	↓		
43	131	CAULKING		
↓	132	↓		
↓	133	↓		
44	134	CAULKING		
↓	135	↓		
↓	136	↓		
45	137	[illegible] MATERIAL		
↓	138	↓		
	139			
	140			
	141			
	142			

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PLM REPORT

Steve Moody Micro Services, Inc.
1510 Randolph, Suite 602
Carrollton, Texas 75006 (972) 446-9482

NVLAP Lab No. 102056
TDH License No. 30-0084
PAT ID # 102577

Client : Viva Environmental, Inc.
Lab Job No.: x2B-08307

Project : WSMR, Building 160
Report Date: 07/10/2002

Project # : WSMR14-1-3 PO #673 Sample Date : 07/09/2002

Identification : Asbestos, Bulk Sample Analysis

Test Method : Polarized Light Microscopy / Dispersion Staining (PLM/DS)
EPA Method 40 CFR, Ch. 1, Pt. 763, Subpt. F, App. A

On 7/10/02, fourteen (14) bulk material samples were submitted by Arnolfo Quimiro of Viva Environmental, Inc. for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein. The results are summarized below:

Sample Number	Client Sample Description / Location	Asbestos Content
10QC	Plaster	None Detected - Bottom Plaster None Detected - Top Plaster
20QC	Plaster	None Detected - Bottom Plaster None Detected - Top Plaster
30QC	Floor Tile / Mastic	None Detected - Yellow Mastic None Detected - Floor Tile None Detected - Black Mastic
40QC	Cove Base Mastic	None Detected - Brown Mastic
50QC	Floor Tile / Mastic	5% Chrysotile - Floor Tile None Detected - Black Mastic
60QC	Vibration Dampner	None Detected - Isolator Material
70QC	Caulking	5% Chrysotile - Caulking
80QC	Panel Material	None Detected - Plaster
90QC	Caulking	None Detected - Caulking
100QC	Caulking	None Detected - White Caulking <1% Chrysotile - Beige Caulking
110QC	Caulking	None Detected - White Caulking
120QC	Roofing Material	None Detected - Roofing Tars None Detected - Roofing Felts None Detected - Underlayment
130QC	Caulking	None Detected - Caulking

PLM REPORT

Steve Moody Micro Services, Inc.
1510 Randolph, Suite 602
Carrollton, Texas 75006 (972) 446-9482

NVLAP Lab No. 102056
TDH License No. 30-0084
PAT ID # 102577

Client : Viva Environmental, Inc.

Lab Job No.: x2B-08307

Project : WSMR, Building 160

Report Date: 07/10/2002

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On 7/10/02, fourteen (14) bulk material samples were submitted by Arnolfo Quimiro of Viva Environmental, Inc. for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein. The results are summarized below:

Sample Number	Client Sample Description / Location	Asbestos Content
139QC	Roofing Material	5% Chrysotile - Silver Paint None Detected - Roof Membrane

These samples were analyzed by layers. Quantification, unless otherwise noted, is performed by calibrated visual estimate.
Results may not be reproduced except in full. This test report relates only to the samples tested.
These test results do not imply endorsement by NVLAP or any agency of the U.S. Government.
Accredited by the National Voluntary Laboratory Accreditation Program for Bulk Asbestos Fiber Analysis under Lab Code 102056.

Analyst : Casey Martin

Lab Director : Steve Moody

Approved Signatory :

Steve Moody Micro Services, Inc.
TDH License No. 30-0084 EPA Method 40 CFR, Ch. 1, Pt. 763, Subpt. F, App. A NVLAP Lab No. 102056

Client : **Viva Environmental, Inc.**

Project : **WSMR, Building 160**

Project # : **WSMR14-1-3 PO #6735** Lab Job# : **x2B-08307** Sample # : **10QC**

Client Sample Description : **Plaster**

Layer 1 Bottom Plaster

Stereoscopic Exam

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Beige	**Hard / Blocky**	**YES**	**ND**	**ND**	**75**

PLM Examination

Components	%	+/-	Morphology	Color / Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	**65**		**Non-fibrous**						
Binders / Fillers	**35**		**Non-fibrous**						

Prep/treatment : **mechanical separation** Asbestos Content : **None Detected**

Layer 2 Top Plaster

Stereoscopic Exam

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	**Blocky**	**YES**	**ND**	**ND**	**25**

PLM Examination

Components	%	+/-	Morphology	Color / Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Calcite / Binders	**100**		**Non-fibrous**				**high**		

Prep/treatment : **mechanical separation** Asbestos Content : **None Detected**

Comments :

Analyst : **Casey Martin**
Date Analyzed : **7/10/02**

Lab Job# : **x2B-08307** Sample # : **10QC**

Client : **Viva Environmental, Inc.**

Project : **WSMR, Building 160**

Project # : **WSMR14-1-3 PO #6735** Lab Job# : **x2B-08307** Sample # : **20QC**

Client Sample Description : **Plaster**

Layer 1 Bottom Plaster

Stereoscopic Exam

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Beige	**Hard / Blocky**	**YES**	**ND**	**ND**	**75**

PLM Examination

Components	%	+/-	Morphology	Color / Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate	**65**		**Non-fibrous**						
Binders / Fillers	**35**		**Non-fibrous**						

Prep/treatment : **mechanical separation** Asbestos Content : **None Detected**

Layer2 Top Plaster

Stereoscopic Exam

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	**Blocky**	**YES**	**ND**	**ND**	**25**

PLM Examination

Components	%	+/-	Morphology	Color / Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Calcite / Binders	**100**		**Non-fibrous**				**high**		

Prep/treatment : **mechanical separation** Asbestos Content : **None Detected**

Comments :

Analyst : **Casey Martin**
Date Analyzed : **7/10/02**

Lab Job# : **x2B-08307** Sample # : **20QC**

Steve Moody Micro Services, Inc. Bulk Asbestos Analysis Sheet
TDH License No. 30-0084 EPA Method 40 CFR, Ch. 1, Pt. 763, Subpt. F, App. A

Client : **Viva Environmental, Inc.**

Project : **WSMR, Building 160**

Project # : **WSMR14-1-3 PO #6735** Lab Job# : **x2B-08307** Sample # : **30QC**

Client Sample Description : **Floor Tile / Mastic**

Layer 1 Yellow Mastic

Stereoscopic Exam

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Yellow	**Rubbery**	**YES**	**ND**	**ND**	**5**

PLM Examination

Components	%	+/-	Morphology	Color / Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Glue Binders	**100**		**Non-fibrous**						

Prep/treatment : **heat / melt** Asbestos Content : **None Detected**

Layer 2 Floor Tile

Stereoscopic Exam

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Light Tan	**Hard**	**YES**	**ND**	**ND**	**90**

PLM Examination

Components	%	+/-	Morphology	Color / Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Calcite / Vinyl Binders	**100**		**Non-fibrous**				**high**		

Prep/treatment : **heat / melt** Asbestos Content : **None Detected**

Layer 3 Black Mastic

Stereoscopic Exam

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Black	**Asphaltic**	**YES**	**ND**	**ND**	**5**

PLM Examination

Components	%	+/-	Morphology	Color / Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Tar Binders	**100**		**Non-fibrous**						

Prep/treatment : **heat / melt** Asbestos Content : **None Detected**

Comments :

Analyst : **Casey Martin**
Date Analyzed : **7/10/02**

Lab Job# : **x2B-08307** Sample # : **30QC**

Client : **Viva Environmental, Inc.**

Project : **WSMR, Building 160**

Project # : **WSMR14-1-3 PO #6735** Lab Job# : **x2B-08307** Sample # : **40QC**

Client Sample Description : **Cove Base Mastic**

Layer 1 Brown Mastic

Stereoscopic Exam

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Brown	**Rubbery**	**YES**	**ND**	**ND**	**100**

PLM Examination

Components	%	+/-	Morphology	Color / Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Calcite	**60**		**Non-fibrous**				**high**		
Glue Binders	**40**		**Non-fibrous**						

Prep/treatment : **heat / melt**

Asbestos Content : **None Detected**

Comments :

Analyst : **Casey Martin**
Date Analyzed : **7/10/02**

Lab Job# : **x2B-08307** Sample # : **40QC**

Steve Moody Micro Services, Inc. Bulk Asbestos Analysis Sheet
TDH License No. 30-0084 EPA Method 40 CFR, Ch. 1, Pt. 763, Subpt. F, App. A

Client : **Viva Environmental, Inc.**

Project : **WSMR, Building 160**

Project # : **WSMR14-1-3 PO #6735** Lab Job# : **x2B-08307** Sample # : **50QC**

Client Sample Description : **Floor Tile / Mastic**

Layer 1 Floor Tile

Stereoscopic Exam

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Light Tan	**Hard**	**YES**	**ND**	**ND**	**95**

PLM Examination

Components	%	+/-	Morphology	Color / Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Chrysotile	**5**	**2**	**silky / wavy**	**None**	**1.563**	**1.555**	**low**	**0**	**+**
Calcite / Vinyl Binders	**95**		**Non-fibrous**				**high**		

Prep/treatment : **heat / melt** Asbestos Content : **5% Chrysotile**

Layer 2 Black Mastic

Stereoscopic Exam

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Black	**Asphaltic**	**YES**	**ND**	**ND**	**5**

PLM Examination

Components	%	+/-	Morphology	Color / Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Tar Binders	**100**		**Non-fibrous**						

Prep/treatment : **heat / melt** Asbestos Content : **None Detected**

Comments :

Analyst : **Casey Martin**
Date Analyzed : **7/10/02**

Lab Job# : **x2B-08307** Sample # : **50QC**

Client : **Viva Environmental, Inc.**

Project : **WSMR, Building 160**

Project # : **WSMR14-1-3 PO #6735** Lab Job# : **x2B-08307** Sample # : **60QC**

Client Sample Description : **Vibration Dampner**

Layer 1 Isolator Material

Stereoscopic Exam

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Tan	**Fibrous**	**YES**	**100**	**ND**	**100**

PLM Examination

Components	%	+/-	Morphology	Color / Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cotton Fibers	**100**		**Twisted Ribbons**				**high**		

Prep/treatment : **mechanical separation**

Asbestos Content : **None Detected**

Comments :

Analyst : **Casey Martin**
Date Analyzed : **7/10/02**

Steve Moody Micro Services, Inc. Bulk Asbestos Analysis Sheet

NVLAP Lab No. 102056

Client :

Project :

WSMR14-1-3 PO #6735 Lab Job# : Sample # : **70QC**

Client Sample Description : **Caulking**

Layer 1 Caulking

Stereoscopic Exam

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	**Rubbery**	**YES**	**ND**	**ND**	**100**

PLM Examination

Components	%	+/-	Morphology	Color / Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Chrysotile	**5**	**2**	**silky / wavy**	**None**	**1.554**	**1.546**	**low**	**0**	**+**
Calcite / Binders	**95**		**Non-fibrous**				**high**		

Prep/treatment : **heat / melt**

Asbestos Content : **5% Chrysotile**

Comments :

Analyst : **Casey Martin**

Date Analyzed : **7/10/02**

Lab Job# : **x2B-08307** Sample # : **70QC**

Client : **Viva Environmental, Inc.**

Project : **WSMR, Building 160**

Project # : **WSMR14-1-3 PO #6735** Lab Job# : **x2B-08307** Sample # : **80QC**

Client Sample Description : **Panel Material**

Layer 1 Plaster

Stereoscopic Exam

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	**Blocky**	**YES**	**ND**	**ND**	**100**

PLM Examination

Components	%	+/-	Morphology	Color / Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Gypsum / Binders	**100**		**Non-fibrous**						

Prep/treatment : **mechanical separation**

Asbestos Content : **None Detected**

Comments :

Analyst : **Casey Martin**
Date Analyzed : **7/10/02**

Lab Job# : **x2B-08307** Sample # : **80QC**

Steve Moody Micro Services, Inc. Bulk Asbestos Analysis Sheet
TDH License No. 30-0084 EPA Method 40 CFR, Ch. 1, Pt. 763, Subpt. F, App. A

Client : **Viva Environmental, Inc.**

Project : **WSMR, Building 160**

Project # : **WSMR14-1-3 PO #6735** Lab Job# : **x2B-08307** Sample # : **90QC**

Client Sample Description : **Caulking**

Layer 1 Caulking

Stereoscopic Exam

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	**Rubbery**	**YES**	**ND**	**ND**	**100**

PLM Examination

Components	%	+/-	Morphology	Color / Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Calcite / Binders	**100**		**Non-fibrous**				**high**		

Prep/treatment : **heat / melt**

Asbestos Content : **None Detected**

Comments :

Analyst : **Casey Martin**
Date Analyzed : **7/10/02**

Lab Job# : **x2B-08307** Sample # : **90QC**

Steve Moody Micro Services, Inc.
TDH License No. 30-0084 EPA Method 40 CFR, Ch. 1, Pt. 763, Subpt. F, App. A NVLAP Lab No. 102056

Client : **Viva Environmental, Inc.**

Project : **WSMR, Building 160**

Project # : **WSMR14-1-3 PO #6735** Lab Job# : **x2B-08307** Sample # : **100QC**

Client Sample Description : **Caulking**

Layer 1 White Caulking

Stereoscopic Exam

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	**Rubbery**	**YES**	**ND**	**ND**	**80**

PLM Examination

Components	%	+/-	Morphology	Color / Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Silicon Binders	**100**		**Non-fibrous**						

Prep/treatment : **heat / melt** Asbestos Content : **None Detected**

Layer 2 Beige Caulking

Stereoscopic Exam

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Beige	**Hard**	**YES**	**ND**	**ND**	**20**

PLM Examination

Components	%	+/-	Morphology	Color / Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign o Elongation
Chrysotile	**<1**		**silky / wavy**	**None**	**1.554**	**1.546**	**low**	**0**	**+**
Pigment / Binders	**100**		**Non-fibrous**						

Prep/treatment : **heat / melt** Asbestos Content : **<1% Chrysotile**

Comments :

Analyst : **Casey Martin**
Date Analyzed : **7/10/02**

Lab Job# : **x2B-08307** Sample # : **100QC**

Steve Moody Micro Services, Inc. Bulk Asbestos Analysis Sheet
TDH License No. 30-0084 EPA Method 40 CFR, Ch. 1, Pt. 763, Subpt. F, App. A

Client : **Viva Environmental, Inc.**

Project : **WSMR, Building 160**

Project # : **WSMR14-1-3 PO #6735** Lab Job# : **x2B-08307** Sample # : **110QC**

Client Sample Description : **Caulking**

Layer 1 White Caulking

Stereoscopic Exam

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	**Rubbery**	**YES**	**ND**	**ND**	**100**

PLM Examination

Components	%	+/-	Morphology	Color / Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Silicon Binders	**100**		**Non-fibrous**						

Prep/treatment : **heat / melt**

Asbestos Content : **None Detected**

Comments :

Analyst : **Casey Martin**
Date Analyzed : **7/10/02**

Lab Job# : **x2B-08307** Sample # : **110QC**

Steve Moody Micro Services, Inc. Bulk Asbestos Analysis Sheet
TDH License No. 30-0084 EPA Method 40 CFR, Ch. 1, Pt. 763, Subpt. F, App. A NVLAP Lab No. 102056

Client : **Viva Environmental, Inc.**

Project : **WSMR, Building 160**

Project # : **WSMR14-1-3 PO #6735** Lab Job# : **x2B-08307** Sample # : **120QC**

Client Sample Description : **Roofing Material**

Layer 1 Roofing Tars

Stereoscopic Exam

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Black	**Asphaltic**	**YES**	**ND**	**ND**	**40**

PLM Examination

Components	%	+/-	Morphology	Color / Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Tar Binders	**100**		**Non-fibrous**						

Prep/treatment : **heat / melt** Asbestos Content : **None Detected**

Layer 2 Roofing Felts

Stereoscopic Exam

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Black	**Asphaltic**	**YES**	**45**	**ND**	**40**

PLM Examination

Components	%	+/-	Morphology	Color / Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Glass Wool Fibers	**45**		**Rods**				**0**		
Tar Binders	**55**		**Non-fibrous**						

Prep/treatment : **mechanical seperation** Asbestos Content : **None Detected**

Layer 3 Underlayment

Stereoscopic Exam

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Tan	**Fibrous**	**YES**	**100**	**ND**	**20**

PLM Examination

Components	%	+/-	Morphology	Color / Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	**100**		**ribbons**				**high**		

Prep/treatment : **mechanical separation** Asbestos Content : **None Detected**

Comments :

Analyst : **Casey Martin**
Date Analyzed : **7/10/02**

Lab Job# : **x2B-08307** Sample # : **120QC**

Steve Moody Micro Services, Inc. Bulk Asbestos Analysis Sheet
TDH License No. 30-0084 EPA Method 40 CFR, Ch. 1, Pt. 763, Subpt. F, App. A NVLAP Lab No. 102056

Client : **Viva Environmental, Inc.**

Project : **WSMR, Building 160**

Project # : **WSMR14-1-3 PO #6735** Lab Job# : **x2B-08307** Sample # : **130QC**

Client Sample Description : **Caulking**

Layer 1 Caulking

Stereoscopic Exam

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Light Grey	**Hard**	**YES**	**ND**	**ND**	**100**

PLM Examination

Components	%	+/-	Morphology	Color / Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Binders / Fillers	**100**		**Non-fibrous**						

Prep/treatment : **heat / melt**

Asbestos Content : **None Detected**

Comments :

Analyst : **Casey Martin**
Date Analyzed : **7/10/02**

Lab Job# : **x2B-08307** Sample # : **130QC**

Steve Moody Micro Services, Inc. Bulk Asbestos Analysis Sheet
TDH License No. 30-0084 EPA Method 40 CFR, Ch. 1, Pt. 763, Subpt. F, App. A

Client : **Viva Environmental, Inc.**

Project : **WSMR, Building 160**

Project # : **WSMR14-1-3 PO #6735** Lab Job# : **x2B-08307** Sample # : **139QC**

Client Sample Description : **Roofing Material**

Layer 1 Silver Paint

Stereoscopic Exam

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Silver	**Hard**	**NO**	**ND**	**ND**	**35**

PLM Examination

Components	%	+/-	Morphology	Color / Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Chrysotile	**5**	**2**	**silky / wavy**	**None**	**1.554**	**1.546**	**low**	**0**	**+**
Pigment / Binders	**95**		**Non-fibrous**						

Prep/treatment : **heat / melt** Asbestos Content : **5% Chrysotile**

Layer 2 Roof Membrane

Stereoscopic Exam

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Tan	**Rubbery**	**YES**	**ND**	**ND**	**65**

PLM Examination

Components	%	+/-	Morphology	Color / Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Calcite	**35**		**Non-fibrous**				**high**		
Binders / Fillers	**65**		**Non-fibrous**						

Prep/treatment : **heat / melt** Asbestos Content : **None Detected**

Comments :

Analyst : **Casey Martin**
Date Analyzed : **7/10/02**

Lab Job# : **x2B-08307** Sample # : **139QC**

P.O.# 6735

2B-08307/-PLM-14

Viva Environmental, Inc.
7201 Stiles
El Paso, Texas 79915
(915) 779-5395
(915) 779-5397

VIVA ENVIRONMENTAL, INC. *The Future Is Clear!*

ASBESTOS SURVEY CHAIN OF CUSTODY

CLIENT NAME: WSMR
SURVEY ADDRESS [illegible]
CITY/STATE/ZIP WSMR, NM

PROJECT #WSMR14.1-36 DATE 7/9/02
INSPECTOR A.P. R.A.
TAT REGULAR BULK PLM EPA 600

Homo#	Sample #	Material Description	Functional Homogeneous location	Sample location
	10QC	PLASTER		
	20QC	PLASTER		
	30QC	FLOOR TILE/MASTIC		
	40QC	COVEBASE MASTIC		
	50QC	FLOOR TILE/MASTIC		
	60QC	VIBRATION DAMPNER		
	70QC	CAULKING		
	80QC	PANEL MATERIAL		
	90QC	CAULKING		
	100QC	CAULKING		
	110QC	CAULKING		
	120QC	ROOFING MATERIAL		
	130QC	CAULKING		
	139QC	ROOFING MATERIAL		

Relinquished by: [signature] Date: 7/9/02 Received by: Christina Keun via donet Date: 7/10/02 @ 7:00AM

BUILDING 160
WSMR, N.M.

Serial #XL309-U1001NR1816
PAINT
Header:
Site:
Date:7/8/2002 09:01:44
Ranges (NEG<INC<POS): Device PCS

No	Room	Source	Sub	Feat	Cnd	Clr	Ssec	Dl	Result	Pbl	Pbl +/-	Pbk	Pbk +/-	Pbc	Pbc +/-
1	Shutter Cal	1					42.9	0	...	NA		NA		NA	
2	Calibrate						10	1.9	NEG	0.25	0.15	-0.77	1.05	0.25	0.15
3	Calibrate						5.4	1	NEG	0.33	0.08	-0.47	1.68	0.33	0.08
4	Exterior	Door	Metal	Jamb	Fair	Brown	3	2	POS	>>5.0		5.34	6.57	5.1	1.77
5	Exterior	Door	Metal	Door	Fair	Brown	2.9	2.1	POS	>>5.0		4.45	6.46	5.1	1.67
6	Exterior	Wall	Concrte	Wall	Fair	Tan	28.5	10	NEG	0.06	0.35	-0.25	0.73	-0.25	0.73
7	Exterior	Wall	Concrte	Wall	Fair	Tan	5.5	10	POS	1.99	1.54	8.86	3.23	8.86	3.23
8	Exterior	Support	Metal	Column	Poor	Brown	2.8	2.1	POS	>>5.0		23.87	12.8	5.1	1
9	Exterior	Planter	Concrte	Wall	Poor	Tan	16.9	1	NEG	0	0.06	-0.59	0.86	-0.59	0.86
10	Exterior	Planter	Concrte	Wall	Poor	Tan	32.8	5.1	NEG	0.01	0.05	0.21	0.63	0.01	0.05
11	Exterior	Wall	Concrte	Wall	Fair	Tan	7.7	5.6	POS	3.5	2.6	6.36	2.4	6.36	2.4
12	Exterior	Ceiling	Concrte	Ceiling	Poor	Tan	19.1	1	NEG	0	0.11	-0.65	0.9	-0.65	0.9
13	Exterior	Wall	Concrte	Wall	Fair	Tan	10	4.6	POS	2	0.69	1.95	1.76	2	0.69
14	Exterior	Wall	Concrte	Wall	Fair	Tan	60.9	1	NEG	0	0.03	0.37	0.46	0	0.03
15	Exterior	Window	Metal	Sash Ext	Poor	Tan	3.1	1.5	POS	1.59	0.51	2.38	3.61	1.59	0.51
16	Exterior	Sign	Metal	Frame	Poor	Tan	15	6.9	NEG	0.04	0.09	-0.72	0.94	-0.72	0.94
17	Exterior	Wall	Concrte	Wall	Fair	Tan	60.7	1	NEG	0	0.05	0.42	0.46	0	0.05
18	Exterior	Missile	Metal	Bottom	Poor	Tan	3.2	1	NEG	0.05	0.1	1.51	2.9	0.05	0.1
19	Exterior	Missile	Metal	Middle	Poor	Tan	5.4	1.3	NEG	0.03	0.14	-1	1.85	0.03	0.14
20	Exterior	Missile	Metal	Top	Poor	Tan	7.6	1	NEG	0.32	0.09	0.42	1.72	0.32	0.09
21	Exterior	Wall	Concrte	Wall	Poor	Tan	24	1.1	NEG	0	0.11	-0.12	0.75	0	0.11
22	Exterior	Window	Metal	Sash Ext	Poor	Tan	10.1	1.6	POS	0.81	0.19	0.98	1.46	0.81	0.19
23	Exterior	Wall	Concrte	Wall	Fair	Tan	10	7.4	POS	3.15	2.95	3.77	1.77	3.77	1.77
24	Exterior	Wall	Concrte	Wall	Fair	Tan	3.2	6.3	POS	4.06	2.03	10.07	4.6	10.07	4.6
25	Exterior	Wall	Concrte	Wall	Poor	Tan	5.5	5.7	POS	2.73	1.45	8.55	3.6	8.55	3.6
26	Exterior	Wall	Concrte	Wall	Poor	Tan	33.1	4.7	NEG	0.01	0.04	0.14	0.67	0.01	0.04
27	Exterior	Support	Metal	Column	Poor	Brown	2.9	2.1	POS	>>5.0		26.6	12.62	26.6	12.62
28	Exterior	Door	Metal	Jamb	Fair	Brown	3	1.7	POS	>>5.0		5.34	6.27	5.1	1.66
29	Exterior	Door	Metal	Door	Fair	Brown	3	2	POS	>>5.0		7.12	6.26	5.1	1.81
30	Exterior	Wall	Concrte	Wall	Poor	Tan	35.1	10	NEG	0.03	0.19	-0.19	0.61	-0.19	0.61
31	Exterior	Wall	Concrte	Wall	Poor	Tan	28.4	10	NEG	0.07	0.43	-0.19	0.65	0.07	0.43
32	Exterior	Wall	Concrte	Curb	Poor	White	26.7	1.5	NEG	0.01	0.06	0.01	0.75	0.01	0.06
33	Exterior	Wall	Concrte	Curb	Poor	White	22	3.7	NEG	0.04	0.16	-0.2	0.83	0.04	0.16
34	Exterior	Door	Metal	Jamb	Fair	Brown	2.8	2.1	POS	>>5.0		13.76	10.76	5.1	1
35	Exterior	Door	Metal	Door	Fair	Brown	3	1.3	POS	3.09	0.75	4.4	5.54	3.09	0.75
36	Exterior	Wall	Brick	Wall	Intact	Red	24.3	1	NEG	0	0.07	0.09	0.75	0	0.07
37	Exterior	Grounds	Metal	Ashtray	Poor	Red	3.1	1.3	POS	2.07	0.54	2.71	3.48	2.07	0.54
38	Exterior	Window	Metal	Guard	Fair	Red	12.4	1.2	POS	0.7	0.13	0.73	1.18	0.7	0.13
39	Exterior	Window	Metal	Guard	Fair	Black	3	1.5	POS	3.05	0.79	3.19	3.34	3.05	0.79
40	Exterior	Window	Metal	Guard	Fair	Tan	3	1.3	POS	2.53	0.64	3.37	3.66	2.53	0.64
41	Exterior	Window	Metal	Guard	Fair	Tan	21	1.3	NEG	0.45	0.09	0.88	0.92	0.45	0.09
42	Exterior	Door	Metal	Storm	Poor	Tan	3	1.8	POS	>>5.0		6.33	6.53	5.1	1.66
43	Exterior	Door	Metal	Storm	Poor	Tan	2.8	1.5	POS	>>5.0		8.9	7.69	5.1	1
44	Exterior	Door	Metal	Storm	Poor	Tan	3	1.1	POS	2.79	0.62	2.48	6.09	2.79	0.62
45	Exterior	Door	Metal	Jamb	Fair	Brown	3.1	5.7	NEG	0.05	0.14	1.55	2.84	0.05	0.14
46	Exterior	Door	Metal	Door	Fair	Brown	3.2	1	NEG	0.05	0.12	0.49	2.27	0.05	0.12
47	Exterior	Stairs	Metal	Rail cap	Poor	Brown	3.1	2.4	POS	4.41	1.69	5.08	4.13	4.41	1.69
48	Exterior	Stairs	Metal	Rail cap	Poor	Brown	7.2	1.5	POS	3.7	0.57	5.52	2.43	3.7	0.57
49	Exterior	Door	Metal	Jamb	Fair	Brown	9.7	1	NEG	0.35	0.08	0.99	1.44	0.35	0.08
50	Exterior	Wall	Brick	Wall	Poor	Brown	9.8	1	NEG	0.29	0.09	0.41	1.29	0.29	0.09
51	Exterior	Wall	Concrte	Wall	Poor	Brown	21.6	2.3	NEG	0.09	0.08	-0.32	0.86	0.09	0.08
52	Exterior	Wall	Wood	Wall	Poor	Tan	3.2	1	NEG	0	0.02	-0.81	1.88	0	0.02
53	Exterior	Dock	Metal	Bumper	Poor	Tan	3	1	NEG	0.01	0.09	-0.47	2.83	0.01	0.09
54	Exterior	Dock	Metal	Bumper	Poor	Tan	3	1.2	POS	2.51	0.62	2.08	6.15	2.51	0.62
55	Exterior	Shed	Wood	Wall	Poor	Brown	5.3	1.8	POS	1.43	0.4	0.22	1.77	1.43	0.4
56	Exterior	Shed	Wood	Wall	Poor	Brown	3	1.5	POS	2.39	0.69	1.71	2.84	2.39	0.69
57	Exterior	Window	Metal	Guard	Fair	Brown	5.1	1.4	POS	1.19	0.32	0.7	2.09	1.19	0.32
58	Exterior	Window	Metal	Guard	Fair	Brown	9.6	1.4	POS	0.82	0.18	0.02	1.53	0.82	0.18
59	Exterior	Door	Metal	Jamb	Fair	Brown	3	1.5	POS	2.92	0.78	2.51	3.34	2.92	0.78
60	Exterior	Door	Metal	Door	Fair	Brown	3.1	1.7	POS	2.86	0.82	4.42	3.61	2.86	0.82
61	Exterior	Ladder	Metal	Rung	Poor	Brown	7.3	2.5	NEG	0.15	0.18	0.37	1.69	0.15	0.18
62	Exterior	Ladder	Metal	Rail	Poor	Brown	5.2	1.2	NEG	0.05	0.1	-0.21	2.11	0.05	0.1
63	Exterior	Ladder	Metal	Rung	Poor	Brown	3.1	1	NEG	0.03	0.02	1.09	2.75	0.03	0.02
64	Exterior	Door	Metal	Door	Fair	Brown	9.3	1.4	POS	3.79	0.49	3.51	1.99	3.79	0.49
65	Exterior	Door	Metal	Door	Fair	Brown	2.8	1.8	POS	>>5.0		13.22	10.21	5.1	1

66	Exterior	Top window	Metal	Frame	Fair	Brown	2.8	2	POS	>>5.0		16.28	9.98	5.1	1
67	Exterior	Top window	Metal	Frame	Fair	Brown	2.8	2	POS	>>5.0		10.88	8.74	5.1	1
68	Exterior	Top window	Metal	Frame	Fair	Brown	2.9	2.6	POS	>>5.0		14.22	8.59	5.1	1.58
69	Exterior	Top window	Other	Window	Fair	Tan	11.3	1.5	NEG	0.27	0.13	0.14	1.27	0.27	0.13
70	Exterior	Top window	Other	Window	Fair	Tan	21.5	1.7	NEG	0.39	0.11	0.03	0.86	0.39	0.11
71	Exterior	Top window	Other	Window	Fair	Tan	21.7	1.9	NEG	0.4	0.12	0.02	0.86	0.4	0.12
72	Exterior	Wall	Metal	Upper trim	Intact	Tan	2.8	1.8	POS	>>5.0		16.26	10.17	5.1	1
73	Exterior	Wall	Metal	Upper trim	Intact	Tan	2.8	1.9	POS	>>5.0		14.32	9.32	5.1	1
74	Exterior	Wall	Metal	Upper trim	Intact	Tan	2.8	1.8	POS	>>5.0		20.53	10.32	5.1	1
75	A16	Wall	Metal	Beam	Poor	Tan	2.8	1.7	POS	>>5.0		18.47	10	5.1	1
76	A16	Door	Metal	Jamb	Fair	Tan	10.1	1.4	NEG	0.33	0.11	0.18	1.45	0.33	0.11
77	A16	Door	Metal	Door	Fair	Tan	21.9	1.8	NEG	0.36	0.09	0.26	0.8	0.36	0.09
78	A12	Wall	Concrte	Wall	Poor	Tan	16.8	6.1	NEG	0.07	0.17	-0.14	0.99	0.07	0.17
79	A12	Window	Metal	Sash Ext	Fair	White	7.4	1.8	POS	4.45	1.65	6.44	2.44	4.45	1.65
80	A10	Door	Metal	Jamb	Fair	White	3.1	2.2	POS	4.34	1.76	5.42	4.45	4.34	1.76
81	A10	Door	Wood	Door	Fair	White	5.5	2.5	POS	1.7	0.55	1.75	1.52	1.7	0.55
82	A17	Window	Metal	Sash	Fair	White	40.8	6.1	POS	0.46	0.2	0.84	0.65	0.46	0.2
83	A17	Partition	Wood	Handrail	Poor	White	3.2	1	NEG	0	0.02	0.01	2.04	0	0.02
84	A17	Partition	Wood	Handrail	Poor	White	3.2	1	NEG	0	0.02	-0.61	1.22	0	0.02
85	A17	Partition	Wood	Handrail	Poor	White	3.2	1	NEG	0	0.02	-0.42	1.44	0	0.02
86	A17	Window	Metal	Radiator	Fair	Tan	5.5	2.5	POS	1.92	0.6	1.28	2.62	1.92	0.6
87	A17	Window	Metal	Sash	Fair	White	19.5	2.8	POS	0.74	0.19	1.16	0.98	0.74	0.19
88	A10	Window	Metal	Sash Ext	Fair	White	7.8	1.7	POS	1.04	0.26	2.12	1.68	1.04	0.26
89	A10	Window	Metal	Radiator	Fair	White	5.6	1.3	NEG	0.01	0.2	-0.04	1.71	0.01	0.2
90	A10	Window	Tile	Baseboard	Poor	Black	10	2.4	NEG	0.06	0.26	-0.63	1.36	0.06	0.26
91	A10	Wall	Concrte	Wall	Fair	White	21.8	1.5	NEG	0.04	0.06	-0.23	0.78	0.04	0.06
92	A10	Ceiling	Concrte	Ceiling	Intact	White	26.4	1.1	NEG	0.03	0.03	0	0.74	0.03	0.03
93	A10	Door	Metal	Jamb	Fair	White	21.5	1.3	POS	0.48	0.09	0.96	0.92	0.48	0.09
94	A10	Door	Wood	Jamb	Fair	White	3.1	2.7	POS	>>5.0		4.44	3.22	5.1	1.34
95	A18	Wall	Concrte	Wall	Fair	Brown	10.3	1	NEG	0	0.01	-1.45	1.22	0	0.01
96	A18	Wall	Metal	Column	Poor	Brown	2.7	1.5	POS	>>5.0		13.07	9.79	5.1	1
97	A18	Door	Metal	Jamb	Fair	Brown	3	1.5	POS	>>5.0		4.69	6.72	5.1	1.58
98	A18	Door	Wood	Door	Fair	Brown	3	1.1	POS	1.98	0.5	1.98	2.52	1.98	0.5
99	A20	Door	Metal	Radiator	Fair	Brown	5.5	2.1	POS	1.86	0.51	2.98	2.2	1.86	0.51
100	A20	Door	Metal	Door	Fair	Brown	5.5	2	POS	1.44	0.42	0.92	2.01	1.44	0.42
101	A20	Door	Metal	Door	Fair	Brown	10.1	1.5	POS	0.88	0.19	1.5	1.38	0.88	0.19
102	A20	Door	Metal	Door	Fair	Brown	3.2	2	POS	2.06	0.73	2.13	2.82	2.06	0.73
103	A19	Door	Metal	Jamb	Fair	Brown	3.1	1	NEG	0	0.01	0.25	3.43	0	0.01
104	A19	Door	Metal	Jamb	Fair	Brown	3.1	1	NEG	0	0.01	-1.08	2.75	0	0.01
105	A19	Ladder	Metal	Rung	Poor	Brown	2.9	2	POS	>>5.0		8.12	7.59	5.1	1.64
106	A19	Access	Metal	Door	Poor	Brown	12.7	2.8	NEG	0.22	0.15	0.14	1.19	0.22	0.15
107	A19	Ceiling	Concrte	Ceiling	Fair	Brown	33.4	1.4	NEG	0.04	0.04	0.23	0.59	0.04	0.04
108	A7	Door	Metal	Jamb	Fair	White	3.1	2.3	POS	4.26	1.84	5.02	4.77	4.26	1.84
109	A7	Wall	Tile	Brick	Fair	Black	12.3	3.5	NEG	0.07	0.31	-0.35	1.1	0.07	0.31
110	A7	Door	Tile	Baseboard	Poor	White	3.1	1	NEG	0	0.02	-1.24	2.54	0	0.02
111	A7	Partition	Drywall	Wall	Intact	White	15.1	1	NEG	0	0.1	0.03	0.75	0	0.1
112	A7	Wall	Metal	Column	Poor	Brown	3.1	2.5	POS	>>5.0		12.48	5.38	12.48	5.38
113	A6	Door	Metal	Jamb	Fair	Tan	3.1	3.8	POS	>>5.0		10.28	5.7	5.1	1.43
114	A6	Door	Metal	Door	Fair	Tan	3.2	2.4	POS	3.1	1.13	4.72	3.96	3.1	1.13
115	A6	Door	Metal	Radiator	Fair	Tan	3.2	2	POS	1.91	0.7	2.32	3.71	1.91	0.7
116	A6	Window	Metal	Sash	Fair	Black	19.7	3.6	NEG	0.04	0.18	0.03	0.72	0.04	0.18
117	A6	Window	Metal	Radiator	Fair	Pink	5.5	2.3	POS	1.7	0.51	5.13	2.34	1.7	0.51
118	A5	Window	Metal	Radiator	Fair	Pink	3.2	2.2	POS	2.28	0.82	0.88	3.32	2.28	0.82
119	A5	Door	Metal	Jamb	Fair	Tan	3.1	1.6	POS	2.65	0.76	1.84	3.81	2.65	0.76
120	A1	Door	Metal	Jamb	Fair	Tan	5.3	2.5	POS	4.38	1.71	4.96	2.91	4.38	1.71
121	A5	Door	Metal	Jamb	Fair	Tan	5.6	1.8	NEG	0.06	0.15	-1.04	2.19	0.06	0.15
122	A2	Wall	Concrte	Wall	Fair	White	22.1	1.1	NEG	0.01	0.08	-0.09	0.82	0.01	0.08
123	A2	Wall	Concrte	Wall	Fair	White	22.1	1.8	NEG	0.01	0.11	-0.17	0.79	0.01	0.11
124	A2	Stall	Metal	Door	Intact	Tan	8	2.7	NEG	0.19	0.19	-1.4	1.57	0.19	0.19
125	A2	Stall	Metal	Frame	Intact	Tan	5.6	1.2	NEG	0.05	0.09	0.26	1.62	0.05	0.09
126	A2	Wall	Tile	Wall	Intact	Yellow	8.5	1.6	NEG	0.2	0.19	1.1	1.24	0.2	0.19
127	A2	Wall	Tile	Wall	Intact	Yellow	20.1	3.3	NEG	0.27	0.29	-0.15	0.78	0.27	0.29
128	A2	Floor	Tile	Mosaic	Intact	Yellow	21	9.9	NEG	0.27	0.23	-0.49	0.9	0.27	0.23
129	A5	Wall	Wood	Coat rack	Intact	Pink	3.2	1	NEG	0	0.02	0.84	1.67	0	0.02
130	A5	Wall	Wood	Coat rack	Intact	Pink	3.2	1	NEG	0	0.02	-0.93	2.08	0	0.02
131	A5	Wall	Wood	Coat rack	Intact	Pink	3.2	1	NEG	0	0.02	-2.48	2.76	0	0.02
132	A5	Door	Metal	Jamb	Fair	Tan	3	1.7	POS	>>5.0		4.13	6.45	5.1	1.66
133	A3	Wall	Concrte	Wall	Fair	White	24.5	2.7	NEG	0.03	0.16	-0.18	0.82	0.03	0.16
134	A3	Wall	Concrte	Wall	Fair	White	22.1	1	NEG	0.01	0.05	-0.14	0.82	0.01	0.05
135	A3	Ceiling	Metal	Truss	Intact	Red	5	1	NEG	0.01	0.01	0.18	2.35	0.01	0.01
136	A3	Ceiling	Metal	Truss	Intact	Red	5.1	1	NEG	0.02	0.08	-0.92	2.25	0.02	0.08
137	A3	Ceiling	Metal	Truss	Intact	Red	7.1	2.3	NEG	0.06	0.18	0.89	1.64	0.06	0.18
138	A3	Stall	Metal	Door	Intact	Tan	3.1	1	NEG	0.07	0.11	-0.87	2.58	0.07	0.11
139	A5	Door	Metal	Jamb	Fair	Tan	3.1	1.9	POS	4.5	1.6	4.99	3.91	4.5	1.6

140	A4	Door	Metal	Jamb	Fair	Tan	5.4	1.5	NEG	0.04	0.14	1.04	2.11	0.04	0.14
141	A4	Door	Metal	Door	Fair	Tan	14.8	1.6	NEG	0.33	0.1	-0.23	1.17	0.33	0.1
142	A6	Door	Metal	Radiator	Fair	Pink	7.8	1.8	POS	1.07	0.27	1.33	1.76	1.07	0.27
143	A6	Door	Metal	Jamb	Fair	Tan	3.1	2.8	POS	>>5.0		12.6	6.08	5.1	1.42
144	A6	Door	Metal	Door	Fair	Tan	3.1	2	POS	3.01	0.94	4.11	3.96	3.01	0.94
145	A9	Door	Metal	Door	Fair	White	3.2	1	NEG	0	0.02	0.83	3.06	0	0.02
146	A9	Door	Metal	Jamb	Fair	White	21.8	2	POS	0.54	0.12	1.06	0.92	0.54	0.12
147	A11	Door	Metal	Door	Fair	White	3.2	1	NEG	0.01	0.03	-0.19	1.35	0.01	0.03
148	A11	Wall	Plastic	Wall	Intact	White	12.6	5.6	NEG	0.04	0.1	0.15	1.11	0.04	0.1
149	A23	Wall	Plastic	Wall	Intact	White	5.6	4.2	NEG	0.02	0.1	-1.35	1.82	0.02	0.1
150	A10	Ladder	Metal	Rung	Poor	Brown	2.9	1.8	POS	>>5.0		8.32	7.98	5.1	1.51
151	A10	Door	Metal	Jamb	Fair	Tan	3.1	3.4	POS	>>5.0		7.37	4.57	5.1	1.51
152	A10	Door	Wood	Door	Fair	Tan	3.2	4.9	NEG	0.04	0.16	-0.51	1.84	0.04	0.16
153	A13	Wall	Concrte	Wall	Fair	White	40.8	2.8	NEG	0.21	0.08	0.27	0.54	0.21	0.08
154	A13	Wall	Concrte	Wall	Fair	White	36.1	2.8	NEG	0.2	0.08	0.21	0.64	0.2	0.08
155	A13	Floor	Tile	Floor	Intact	Red	26.6	4.9	NEG	0.04	0.12	0.06	0.75	0.04	0.12
156	A13	Floor	Tile	Baseboard	Poor	Black	28.4	1.3	NEG	0.32	0.06	-0.13	0.81	0.32	0.06
157	A15	Floor	Tile	Baseboard	Poor	White	2.6	1.8	POS	>>5.0		17.45	9.31	5.1	1.61
158	A15	Wall	Tile	Wall	Intact	White	2.7	1.4	POS	>>5.0		23.42	11.24	23.42	11.24
159	A15	Wall	Tile	Wall	Intact	White	2.7	1.5	POS	>>5.0		17.37	11.13	5.1	1
160	A15	Wall	Tile	Wall	Intact	White	2.7	1.4	POS	>>5.0		15.96	9.47	5.1	1
161	A22	Structure	Metal	Truss	Intact	White	3	1	NEG	0.01	0.04	-0.57	2.02	0.01	0.04
162	A22	Structure	Metal	Truss	Intact	White	5	1.1	NEG	0.02	0.09	0.2	1.57	0.02	0.09
163	A22	Structure	Metal	Truss	Intact	White	5	1.5	NEG	0.03	0.16	0.87	1.76	0.03	0.16
164	A22	Structure	Metal	Corr roof	Intact	White	3	1	POS	1.68	0.41	3.68	3.3	1.68	0.41
165	A22	Structure	Metal	Corr roof	Intact	White	3	1.2	POS	2.24	0.55	0.11	4.04	2.24	0.55
166	A22	Structure	Metal	Corr roof	Intact	White	3	1.1	POS	1.88	0.46	-0.07	3.1	1.88	0.46
167	A22	Door	Metal	Door	Fair	White	3	1.2	POS	3.47	0.77	3.82	5.35	3.47	0.77
168	A22	Door	Metal	Jamb	Fair	White	3	1	POS	1.68	0.33	0.67	4.39	1.68	0.33
169	Calibrate						14.3	1	NEG	0.33	0.08	0.03	0.81	0.33	0.08
170	Calibrate						12.3	2.2	NEG	0.3	0.16	-0.01	0.95	0.3	0.16

Appendix C

GEBCO ASSOCIATES

in cooperation with

THE UNIVERSITY OF NORTH TEXAS

certifies that

Mark A. Ayoub

466-27-7412

has successfully completed and passed the exam given on the final day for the Environmental Training Program entitled

Lead Risk Assessor Refresher

Conducted at Hurst, Texas on November 28, 2001

This course is the EPA Model Curriculum based on the Residential Lead-based Paint Hazard Reduction Act of 1992 (Title X), the HUD Guidelines for the evaluation and Control of Lead-based Paint Hazards in Housing, June 1995, and the EPA Lead Final Rule (40 CFR 745), August 29, 1996.

GEBCO

President

Instructor

Date of issue: 11/28/01

Certificate Number: 01019

GEBCO's Training Programs are provided in cooperation with federal and state regulatory agencies, and fulfill all applicable requirements for accreditation. GEBCO is accredited for lead training under the Texas Environmental Lead Reduction Rule.

GEBCO Associates, Inc. * 669 Airport Freeway, Suite 210 * Hurst, TX 76053 * (817) 268-4006

LDRAR

GEBCO ASSOCIATES

in cooperation with

THE UNIVERSITY OF NORTH TEXAS

certifies that

Mark A. Ayoub

466-27-7412

has successfully completed and passed the exam given on the final day for the Environmental Training Program entitled

Lead Inspector Refresher

Conducted at Hurst, Texas on November 27, 2001

This course is the EPA Model Curriculum based on the Residential Lead-based Paint Hazard Reduction Act of 1992 (Title X), the HUD Guidelines for the evaluation and Control of Lead-based Paint Hazards in Housing, June 1995, and the EPA Lead Final Rule (40 CFR 745), August 29, 1996.

GEBCO

President

Instructor

Date of issue: 11/27/01

Certificate Number: 01027

GEBCO's Training Programs are provided in cooperation with federal and state regulatory agencies, and fulfill all applicable requirements for accreditation. GEBCO is accredited for lead training under the Texas Environmental Lead Reduction Rule.

GEBCO Associates, Inc. * 669 Airport Freeway, Suite 210 * Hurst, TX 76053 * (817) 268-4006

LDINR

ERIC BAILEY ENTERPRISES

Certifies that

Mark Ayoub

Has successfully completed

Hazardous Materials Technician
And
Waste Site Worker 8- hour Refresher
Pursuant to OSHA 29 CFR 1910.120

July 30, 2001
Date

Instructor
Eric Bailey Enterprises

NITON®

CORPORATION

Certificate of Achievement

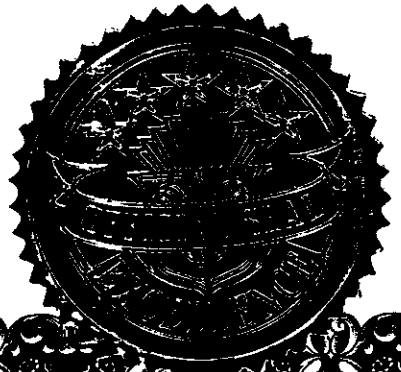
Mark Ayoub

Safenet Environmental Services

has successfully completed the Manufacturer's Training Course for the
NITON Spectrum Analyzer *and is now certified*
in radiation safety and monitoring, measurement technology,
and machine maintenance of the **NITON XRF Spectrum Analyzer.**
(CIH's - The ABIH awards 1 CM point, approval #5827)

99021161044
Certificate Number

02/16/99 Los Alamos
Date & Site of Course



Victoria Grzybinski
Training Coordinator

Director of Training

Texas Department of Health certifies that:

MARK A AYOUB

License Number **705803**

is Licensed as an

Asbestos Air Monitoring Technician

From **09/08/2001** To **09/07/2002**

C. E. Bell, M.D.

Charles E. Bell, M.D.
Executive Deputy Commissioner

Control No. 60334

Acme Environmental Inc.

4007 Carlisle NE, Albuquerque, NM 87107
(505) 872-ACME

Mark Ayoub

SSN 466277412

has successfully completed

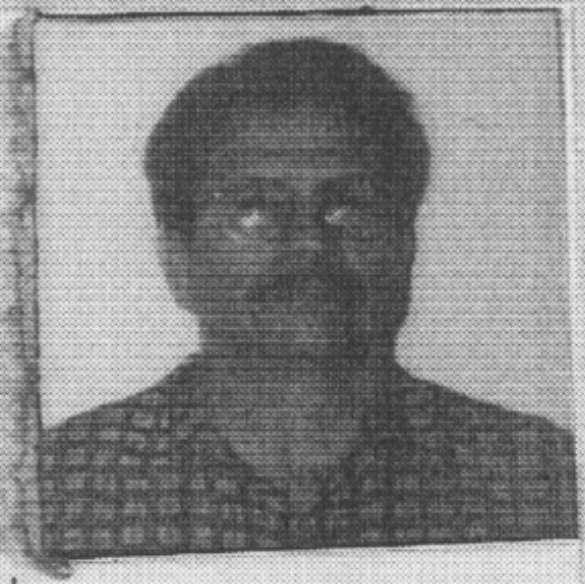
Asbestos Contractor/Supervisor Refresher

In Compliance with the State of Texas

certificate number 102601-15 Expiration date 10/26/02

Acme Environmental Inc.

4007 Carlisle NE, Albuquerque, NM 87107
(505) 872-ACME



Arnulfo Quimiro

SSN 462960114

has successfully completed

Asbestos Inspector

as required under TSCA Title II and AHERA
In Compliance with the State of Texas

certificate number 061301-08 Expiration date 06/13/02

Texas Department of Health certifies that:

ARNULFO QUIMIRO

License Number **500823**
is Licensed as an
Asbestos Project Manager

From **01/25/2001** To **01/24/2002**

Charles E. Ball M.D.
Executive Deputy Commissioner

Control No. 55728

This certifies successful completion of the approved 24 hour training course.

Arnulfo Quimiro

462960114

Asbestos Inspector

For the purposes of accreditation required under TSCA Title II and AHERA

In Compliance with the State of Texas regulation

Conducted by

Acme Environmental Inc.

4007 Carlisle NE
Albuquerque, NM 87107
(505) 872-ACME

course instructor _____

course date: ***06/11-13/01***

course director: _____

exam date: ***06/13/01***

expires on: ***06/13/02***

certificate number: ***061301-08***

Arnulfo Quimiro
SSN: 462-96-0114
Air Monitoring Tech
Annual Update
8/8/01
Expires: 8/8/02
Cert. No.: 462.960.114.034

Scientific Investigation
& Instruction Institute

9130 Jollyville Road, Suite 350
Austin, Texas 78759

fax 512.338.9192
ph 512.338.5379

SCIENTIFIC INVESTIGATION & INSTRUCTION INSTITUTE

CERTIFICATE of ACCREDITATION

to certify that

Arnulfo Quimiro

462-96-0114

has successfully completed the course work
and exam on 8/8/01 for the annual update:

Air Monitoring Technician

462.960.114.034	8/8/02
Certificate Number	Expiration Date

Scientific Investigation & Instruction Institute
9130 Jollyville Road
Suite 350
Austin, Texas 78759
(512) 338-5379

John M. Barrett, Jr.
Director of Training

ERIC BAILEY ENTERPRISES

Certifies that

Mark Weatherly

Has successfully completed

Hazardous Materials Technician
And
Waste Site Worker 8- hour Refresher
Pursuant to OSHA 29 CFR 1910.120

July 30, 2001
Date

Instructor
Eric Bailey Enterprises

Texas Department of Health certifies that:

MARK A WEATHERLY

License Number **105330**
is Licensed as an
Individual Asbestos Consultant

From **10/04/2001** To **10/03/2002**

C. E. Bell, M.D.

Charles E. Bell, M.D.
Executive Deputy Commissioner

Control No. 60689

SCIENTIFIC INVESTIGATION & INSTRUCTION INSTITUTE

CERTIFICATE of ACCREDITATION

to certify that

Mark Weatherly

462-39-9168

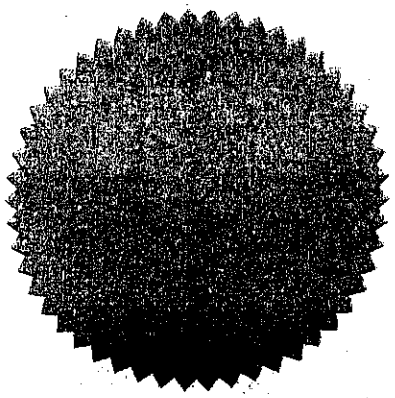
has successfully completed the course work and exam in compliance with TSCA Title II, EPA MAP 40 CFR 763, Subpart E, Appendix C on 8/6/01 for the annual update:

Design of ACBM Abatement Projects
NESHAP Trained Person

462.399.168.033
Certificate Number

8/6/02
Expiration Date

Scientific Investigation & Instruction Institute
9130 Jollyville Road
Suite 350
Austin, Texas 78759
(512) 338-5379



John M. Barrett, Jr.
Director of Training

SCIENTIFIC INVESTIGATION & INSTRUCTION INSTITUTE

CERTIFICATE of ACCREDITATION

to certify that

Mark Weatherly

462-39-9168

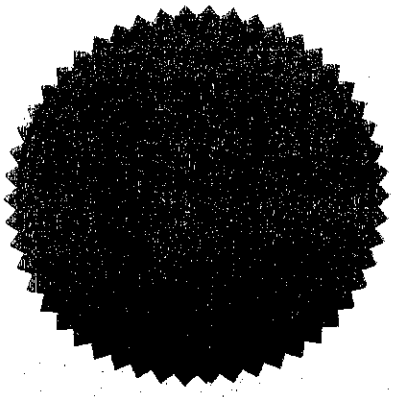
has successfully completed the course work and exam
in compliance with TSCA Title II, EPA MAP 40 CFR 763, Subpart E,
Appendix C on 8/7/01 for the annual update:

Inspecting Buildings for ACBM

462.399.168.031
Certificate Number

8/7/02
Expiration Date

Scientific Investigation & Instruction Institute
9130 Jollyville Road
Suite 350
Austin, Texas 78759
(512) 338-5379



John M. Barrett, Jr.
Director of Training

SCIENTIFIC INVESTIGATION & INSTRUCTION INSTITUTE

CERTIFICATE of ACCREDITATION

to certify that

Mark Weatherly

462-39-9168

has successfully completed the course work and exam in compliance with TSCA Title II, EPA MAP 40 CFR 763, Subpart E, Appendix C on 8/7/01 for the annual update:

Managing ACBM in Buildings

462.399.168.032
Certificate Number

8/7/02
Expiration Date

Scientific Investigation & Instruction Institute
9130 Jollyville Road
Suite 350
Austin, Texas 78759
(512) 338-5379

John M. Barrett, Jr.
Director of Training

SCIENTIFIC INVESTIGATION & INSTRUCTION INSTITUTE

CERTIFICATE of ACCREDITATION

to certify that

Mark Weatherly

462-39-9168

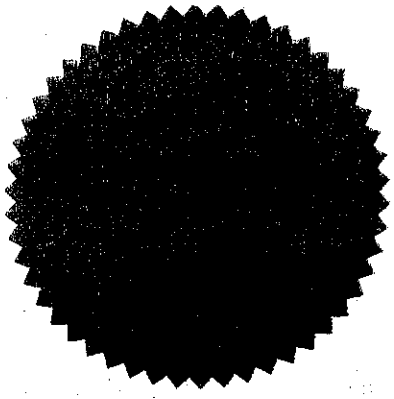
has successfully completed the course work
and exam on 8/8/01 for the annual update:

Air Monitoring Technician

462.399.168.034 — Certificate Number

8/8/02 — Expiration Date

Scientific Investigation & Instruction Institute
9130 Jollyville Road
Suite 350
Austin, Texas 78759
(512) 338-5379



John M. Barrett, Jr.
Director of Training

The University of Texas at Arlington

Southwest Environmental Education Training Center

GERALD GOODWIN

029-42-8391

has successfully completed the course entitled

LEAD INSPECTOR

08/13/2001 - 08/15/2001

in compliance with the Texas Environmental Lead Reduction Rules, §295.206 for Lead Inspector accreditation requirements

Certificate Number: **2348**
Issue Date: **08/15/2001** Expiration Date: **08/15/2004**
CEUs: **2.4**

Jerry W. Crowder - Director

John M. Barrett, Jr. - Instructor

UTA/SWEET • Box 19200 • Arlington, TX 76019 • (817) 272-2915

The University of Texas at Arlington

Southwest Environmental Education Training Center

GERALD GOODWIN

029-42-8391

has successfully completed the course entitled

LEAD RISK ASSESSOR

08/16/2001 - 08/17/2001

in compliance with the Texas Environmental Lead Reduction Rules, §295.207 for Lead Risk Assessor accreditation requirements

Certificate Number: **2349**
Issue Date: **08/17/2001** Expiration Date: **08/17/2004**
CEUs: **1.6**

Jerry W. Crowder - Director

John M. Barrett, Jr. - Instructor

UTA/SWEET • Box 19200 • Arlington, TX 76019 • (817) 272-2915

This certifies successful completion of the approved 24 hour training course.

Gerald L. Goodwin

029428391

Asbestos Inspector

For the purposes of accreditation required under TSCA Title II and AHERA

In Compliance with the State of Texas regulation

Conducted by

Acme Environmental Inc.

4007 Carlisle NE
Albuquerque, NM 87107
(505) 872-ACME

course instructor _____

course date: **06/11-13/01**

course director: _____

exam date: **06/13/01**

expires on: **06/13/02**

certificate number: **061301-09**

Acme Environmental Inc.

4007 Carlisle NE, Albuquerque, NM 87107
(505) 872-ACME

Gerald L. Goodwin

SSN 029428391

has successfully completed

Asbestos Inspector

as required under TSCA Title II and AHERA
In Compliance with the State of Texas

certificate number 061301-09 Expiration date 06/13/02